5 4678 - 5

THE LANCET.

No. 4238. Vol. CLXVII. LONDON, SATURDAY, NOVEMBER 19, 1904. [Pp. 120+56.

CONTENTS.

A LECTURE on Some Practical Points in Abdominal Surgery; with Special Reference to a Simple Technic for Appendicectomy and Intestinal Anastomosis. Delivered at the Annual Meeting of the Montgomery Gynæcological Society of the Jefferson Medical College, Philadelphia, Pa., on Feb. 2nd, 1904, by FREDK. HOLME WIGGIN, M.D., Visiting Surgeon to the City Hospital, and Gynæcologist to St. Elizabeth's Hospital, New York, &c.—*(Illustrated)* 1386

A LECTURE on Infantile Syphilis. Delivered at the Hospital for Sick Children, Great Ormond-street, on July 14th, 1904, by GEORGE F. STILL, M.A., M.D.Cantab., F.R.C.P. Lond., Assistant Physician to the Hospital and Assistant Physician for Diseases of Children, King's College Hospital 1402

FITZPATRICK LECTURES (Abstract of the) for 1904. Delivered before the Royal College of Physicians of London on Nov. 8th and 10th, by JOSEPH FRANK PAYNE, M.D.Oxon., Fellow and Harveian Librarian.—Lecture II.: Ricardus Anglicus and the Teaching of Anatomy in the Middle Ages 1405

ORIGINAL ARTICLES.

Clinical Observations on the Anæsthetic Effects of Methyl Oxide, Ethyl Chloride, and the so-called "Somnoform." By FREDERIC W. HEWITT, M.V.O., M.A., M.D.Cantab., Anæsthetist to His Majesty the King; Physician-Anæsthetist to St. George's Hospital, &c.—*(Illustrated)* 1408

Non-fatal Rupture of Aortic Aneurysm. By CHARLES H. MELLAND, M.D. Lond., M.R.C.P. Lond., Honorary Physician, Ancoats Hospital, Manchester.—*(Illustrated)* ... 1414

On the Action of Perchloride of Iron in Blood Poisoning and other Disorders. By P. W. LATHAM, M.D. Cantab., F.R.C.P. Lond., Downing Professor of Medicine in the University of Cambridge (1874-94); Consulting Physician to Addenbrooke's Hospital, Cambridge 1415

Case of Encephalitis Cerebelli. By FREDERICK TAYLOR, M.D. Lond., F.R.C.P. Lond., Senior Physician to Guy's Hospital and Consulting Physician to the Evelina Hospital for Sick Children 1416

Hill Diarrhœa in the Plains. By P. A. NIGHTINGALE, M.D.Edin., late Physician, British Legation and Royal Palace, Bangkok 1417

A MIRROR OF HOSPITAL PRACTICE.

ROYAL INFIRMARY, EDINBURGH:
A Case of Double Stenosis of the Aortic Orifice. (Under the care of Dr. Andrew Smart.)—*(Illustrated)* 1417

MEDICAL SOCIETIES.

MEDICAL SOCIETY OF LONDON: Exhibition of Cases 1418

CLINICAL SOCIETY:
Congenital Elevation of the Scapula.—Traumatic Axillary Aneurysm successfully treated by Proximal Ligature.—Aneurysm of the Intracranial Part of the Left Internal Carotid.—Appendix Abscess followed by Abscess in the Left Iliac Region 1419

OPHTHALMOLOGICAL SOCIETY:
Intra-ocular Tumour covering the Optic Disc.—Some Anomalous Sarcomata of the Choroid 1421

EDINBURGH OBSTETRICAL SOCIETY:
Presidential Address.—Hydrocephalic Infant delivered by Spinal Tapping.—Cæsarean Section in a Patient with Two Uteri and Two Vaginæ 1421

ROYAL ACADEMY OF MEDICINE IN IRELAND:
Lymphatic Leukæmia.—Aortic Aneurysm 1422

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION:
Salivary Calculus simulating Angina Ludovici 1423

WEST LONDON MEDICO-CHIRURGICAL SOCIETY:
Exhibition of Cases 1424

LEEDS & WEST RIDING MEDICO-CHIRURGICAL SOCIETY:
Disease of the Pre-frontal Lobe 1424

DERMATOLOGICAL SOCIETY OF LONDON:
Exhibition of Cases 1425

FORFARSHIRE MEDICAL ASSOCIATION:
Exhibition of Cases and Specimens 1425

SOUTH-WEST LONDON MEDICAL SOCIETY:
Tubal Gestation 1426

LIVERPOOL MEDICAL INSTITUTION:
Exhibition of Specimens 1426

MEDICO-LEGAL SOCIETY:
An Obscure Form of Alcoholism involving Irresponsibility 1426

LARYNGOLOGICAL SOCIETY:
Exhibition of Cases and Specimens 1426

PATHOLOGICAL SOCIETY OF MANCHESTER:
Exhibition of Specimens 1427

MIDLAND MEDICAL SOCIETY:
Exhibition of Specimens 1427

REVIEWS AND NOTICES OF BOOKS.

Handbook of Meat Inspection. By Robert Ostertag, M.D. Translated by E. Vernon Wilcox, M.A., Ph.D. With an Introduction by John R. Mohler, M.A., D.V.M. 1427

The Surgery of the Diseases of the Appendix Vermiformis and their Complications. By Wm. Henry Battle, F.R.C.S. Eng.; and Edred M. Corner, M.B., B.C.Cantab., F.R.C.S. Eng. 1428

Sleeping Sickness. By Professor Aldo Castellani 1428

Medical Electricity: a Practical Handbook for Students and Practitioners. By H. Lewis Jones, M.A., M.D. Cantab., F.R.C.P. Lond. Fourth Edition 1428

Observations on the Hæmatozoa of Vertebrates in Ceylon. By Aldo Castellani, M.D. Florence; and Arthur Willey, F.R.S. 1429

The Blind Man's World. An English Version of "Entre Aveugles." By Emile Javal. Translated by W. Ernest Thomson, M.D.Edin. 1429

Urine Examination Made Easy. By Thomas Carruthers, M.B., Ch.B.Glasg. 1429

The Modern Nursing of Consumption. By Jane H. Walker, M.D.Brux. 1429

Guide Pratique et Formulaire pour les Maladies de la Bouche et des Dents, &c. By G. Viau. Third Edition 1430

NEW INVENTIONS.

A Self-retaining Tracheal Dilator.—*(Illustrated)* 143

LEADING ARTICLES.

VAGRANCY AND SMALL-POX ... 1431

THE FUTURE SUPPLY OF MIDWIVES 1432

DRINK AND LABOUR 1433

ANNOTATIONS.

Science and Immortality 1434

The Civic Chair and Medical Men 1435

A Remarkable Case of Hysteria in the Male 1435

The Purity of Bread 1436

The Cerebral Localisation of a Non-dementing Psychosis occurring in a Male Degenerate 1436

The Crystal Palace: an Interesting Exhibition 1437

Alcohol Considered as a Food from a Practical Standpoint.. 1437

Dislocation of the Atlas causing Paralysis of the Left Arm and Syringomyelic Dissociation on the Opposite Side ... 1438

The Lesions of the Nervous System caused by the Act of Birth 1438

The Alvarenga Prize of the College of Physicians of Philadelphia 1439

Fatal Nitrobenzol Poisoning due to Absorption from Shoe Blacking 1439

Pathology at Oxford 1439

On Dilatation of the Stomach and Gastroptosis 1439

Professor Naunyn of Strassburg 1440

The Edinburgh University Club 1440

Recent Developments in the Theory and Practice of Immunity 1440

PUBLIC HEALTH AND POOR LAW.

LOCAL GOVERNMENT BOARD:
Reports of Inspectors of the Medical Department of the Local Government Board... 1444

VITAL STATISTICS:
Health of English Towns ... 1444
Health of Scotch Towns 1444
Health of Dublin 1444

SPECIAL ARTICLES.

Mental Hygiene in Childhood.. 1441

Royal College of Surgeons of England 1442

Report of the Health Officer of Calcutta for 1903 1442

The Infants' Health Society and the Present Conditions of Infant Life 1443

The Services 1445

Notes from India 1450

Typhoid Fever and the Water-supply at Washington, Pittsburg, and Alleghany 1451

Professor Baccelli on the Mosquito Theory of Malaria 1452

The International Congress on Dermatology 1453

Second Latin-American Medical Congress 1454

Birmingham 1454

Liverpool 1455

Wales and Western Counties Notes 1456

Scotland 1457

Ireland 1457

Paris 1458

Switzerland 1459

Australia 1459

LOOKING BACK.
(From THE LANCET, Saturday, Nov. 18, 1826.)

Foreign Department 1430

CORRESPONDENCE.

Amyl Nitrite *v.* Adrenalin in Hæmoptysis (Dr. Francis Everard Hare) 1446

Cancer Genesis (Dr. J. Beard) 1447

Indian University Degrees and the Royal College of Surgeons of England (Mr. S. B. Gadgil) 1448

The Dental Hospital, Birmingham (Mr. Fred. W. Richards) 1448

Human Rays and their Spectra (Dr. C. R. Niven) ... 1449

The London County Council and Vision (Dr. H. Critchley) 1449

Cancer of the Cervix complicating Labour (Dr. Herbert R. Spencer) 1449

Actinomycosis (Mr. G. McWilliams Henry) 1449

Intolerable Ingratitude (Dr. F. J. Fielder) 1450

The Delivery of Bread (Mr. Reginald Barratt) 1450

A Case of Exophthalmos in the Newly Born (Mr. I. Crawford) 1450

The Principles of Surgery and the Treatment of Acute Abdominal Affections 1450

Congenital Malformations (Dr. D. Reid Campbell) 1463

OBITUARY.

John Harker, M.D. Heidelb., M.R.C.S.Eng., L.R.C.P.Edin. 1460

MEDICAL NEWS.

Pass-lists of the University of Cambridge and Conjoint Examinations in Ireland by the Royal Colleges of Physicians and Surgeons 1461

University of Oxford 1461

Victoria, Infirmary, Glasgow... 1461

Association of Economic Biologists 1462

Society of Apothecaries of London 1462

Appointments 1462

Vacancies 1462

Births, Marriages, and Deaths 1463

Notes, Short Comments, and Answers to Correspondents.. 1463

Medical Diary 1464

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX.

MEDICAL AND OTHER BOOKS AND PUBLICATIONS.

COVER.

ADLARD & SON:—
Shaw..... Essays on Insanity 1

ARNOLD:—
Hutchison .. Diseases of Children.... 1

BAILLIERE, TINDALL & COX:—
Gall ..... Diseases of the Nose, &c. 1
Bell ..... Cancer Problem 1
Campbell, H. Respiratory Exercise in Treatment of Disease.. 1
Hamilton .. Railway and other Accidents 1
Lamb ..... Examination of the Throat, Nose, and Ear 1
Sewill ..... Dental Surgery 1
Starr ..... Nervous Diseases 1

CHURCHILL, J. & A.:—
Ballantyne.. Antenatal Pathology & Hygiene 1
Carruthers.. Urine Examination 1
Lake..... Guide to Anæsthetics 1
Partridge .. Practical Ambulance Tablets 1
Squire's Pocket Companion to the British Pharmacopœia 1
Taylor ..... Some Disorders of the Spleen 1

CLAISHER:—
Herschell .. Constipation..... 1

LEWIS:—
Campbell, H. Flushing, &c. 1
" Headache 1
Roth ..... Curvature of the Spine 1

LONGMANS, GREEN & CO.:—
Curtis ..... Practical Bacteriology.. 1

PENTLAND, Y. J.:—
Bruce ..... Principles of Treatment 1
Muir & Ritchie.... Manual of Bacteriology 1

SAUNDERS & CO.:—
Moynihan on Gall-stones..... 1
Special Announcement..... 1

SMITH, ELDER & CO.:—
Barnes ..... Manual of Midwifery for Midwives..... 1
Mills ..... Anatomy 1
Finlayson .. Clinical Manual 1
Leffwich .... Index of Symptoms 1
Marshall & Hurst .... Practical Zoology 1

MEDICAL LIBRARIES, &c.:—
Davidson—Sight-Testing for the G.P. 1

SAILLIERE, TINDALL & COX:—
Sigg ..... Constipation 9
Campbell, K. Refraction of the Eye.. 13
Lake..... Diseases of the Ear 13
Latham .... Sanatorium Treatment of Tuberculosis 9
" .... Pulmonary Consumption 9
Owen..... Cleft-Palate, &c. 13
Thorne..... Nasalein Treatment.... 9

SALE, SONS & DANIELSSON:—
Moullin .... Inflammation of the Appendix 10
" .... Ulcer of the Stomach .. 10

SASSELL & CO.:—
Morris, M. .. Diseases of the Skin 9

CHURCHILL, J. & A.:—
Cripps ..... Ovariotomy, &c. 8
Harrison .. Stone, Prostate, &c 8
Squire's Pharmacopœias of the London Hospitals..... 13
Squire's Pocket Companion to the British Pharmacopœia 9

CONSTABLE & CO.:—
Bantle & Horner .... Diseases of the Appendix 9
Horner ..... Abdominal Diseases.... 9
Delamere, Poirier & Quénu ... Lympha tics 9
Evans & Sulstrode.. Prevention of Disease.. 9
Laumonier.. Methods of Treatment . 9
Leaf ..... Cancer of the Breast.... 9
" ..... Lymphatic Glands 9
Wright..... Anti-typhoid Inoculations 9

CORNISH BROS. (BIRMINGHAM):—
Sawyer, Sir J. Practical Medicine 10
" Insomnia 10

CLAISHER:—
West..... Granular Kidney, &c. .. 10

GRIFFIN & CO.:—
West..... Organs of Respiration.. 9

KEGAN PAUL & CO.:—
Taylor ..... Diseases of the Eye 9

KIMPTON, H.:—
Dudley..... Gyrencology 11
Ware ..... Practical Therapeutics .. 11
Koplik .... On Children 11
Thompson .. Practical Medicine 11

LEWIS:—
Abbott ..... Bacteriology 11
Fenwick .... Diseases of the Stomach 10
Higgens .... Ophthalmic Practice .. 5
Jones..... Medical Electricity 5
Moullin .... Enlargement of the Prostate 10
" .... Inflammation of the Bladder 10
New Sydenham Society:—
Atlas of Clinical Medicine, &c..... 8
Osler ..... Equanimitas 8
Sawing .... Landmarks, &c. 8

MACMILLAN & CO.:—
Bailey ..... Botany for Schools 7
Balfour..... Embryology 7
Biedermann. Electro-Physiology 7
Brunton, Sir T. L. .... Disorders of Assimilation, Digestion, &c. .. 7
" .... Modern Therapeutics .. 7
" .... Lectures on the Action of Medicines 7
" .... Text-book of Pharmacology, &c. 7
Chester..... Bacteriology 7
Earl ..... The Living Organism .. 7
Flinkwer & Hanbury .. Pharmacographia 7
Foster, Sir M. Physiology 7
Foster, Sir M., & Balfour. Embryology..... 7
Foster, Sir M., & Langley. Physiology, &c. 7
Foster, Sir M. & Shore .. Physiology 7
Fothergil .. Handbook of Treatment 7
" .. Therapeutic Agents .. 7
Griffiths .... Lessons on Prescriptions 7
Hamilton .. Pathology 7
Hewitt ..... Anæsthetics 7
Hood ..... Treatment of Infants .. 7
Howden .... Elementary Zoology .. 7
Huxley ..... Physiology 7
Huxley & Martin .... Elementary Biology.... 7
Jorgensen .. Micro-Organisms, &c .. 7
Klein..... Micro-Organisms, &c .. 7
Langley .... Practical Histology 7
Lockwood .. Appendicitis 7
Manual of Medicine 7
Milvart..... Anatomy 7
New System of Medicine..... 7
Parker ..... Elementary Biology.... 7
" ..... Vertebrates 7

MACMILLAN—(Continued).
Parker & Haswell .. Text-book of Zoology.. 7
" .. Manual of Zoology 7
Parker & Parker .... Practical Zoology 7
Stelle ..... Diseases of the Breast .. 7
Smith ..... Differential Diagnosis.. 7
Stevenson .... Manual of Surgery 7
Strasburger .. Text-book of Botany .. 7
System of Gynæcology 7
Verworn ..... General Physiology 7
Von Kahlden Path. Histology 7
White ..... General Therapeutics .. 7
Zeigler ..... Path. Anatomy, &c. 7

MURRAY, J.:—
Halliburton.. Biochemistry of Muscle and Nerve 6
Lees ..... Acute Visceral Inflammation 6
Newman .... Bacteriology 6

OLIPHANT, ANDERSON, & CO.:—
McKinney .. Origin and Nature of Man 9

PENTLAND, Y. J.:—
Lockwood .. Aseptic Surgery 8
" .. Cure of Hernia, &c. 8

REBMAN:—
Cleaves ... Light Energy 6
Cushny..... Pharmacology 11
Hall ..... Physiology 11

RENSHAW:—
Wood ..... Application of Trusses 13

SAUNDERS & CO.:—
Medical Hand-Atlases 5
Moynihan.... On Gall stones 5
Special Announcement..... 5

SMITH, ELDER & CO.:—
Keetley .... Orthopædic Surgery.... 10
" .... Gastric Ulcers..... 10
" .... Complicated Fractures 10

SPRAGUE & CO.:—
Ernst..... Orthopædic Apparatus Guide..... 10

THE LANCET PUBLICATIONS .. 12

MEDICAL LIBRARIES, &c.:—
Bishote—Stammering 10
Clinical Journal 10
Edgeworth—
Lancet and other Vols. for sale .. 13
Lewis—Text books, &c. 5

OFFICIAL AND GENERAL ANNOUNCEMENTS.

APPOINTMENTS VACANT:—
Addenbrooke's Hos., Cambridge .. 90, 91
Belgrave Hospital for Children, Chapman-road 91
Bracebridge Asylum, near Lincoln .. 90
British Medical Association 90
Carnarvonshire, &c. Infirmary 91
East London Hospital for Children .. 91
General Infirmary, Gloucester..... 91
Grimsby and District Hospital 90
Holloway Sanatorium Hospital 90
Hospital for Sick Children 91
Jersey General Dispensary 90
London Lock Hospital 90
Macclesfield General Infirmary 90
Manchester Royal Infirmary 91
North-West London Hospital, Kentish Town-road 91
Parish of Vernon-drey Infirmary 90
Queen Charlotte's Lying-in Hospital.. 90
Queen's Hospital, Birmingham 91
Royal Berkshire Hospital 92
Royal Institute of Public Health 91
Royal Surrey County Hospital, Guildford 90
Scholastic, Clerical, &c. Association.. 90
Staffordshire General Infirmary, Stafford 91
St. Andrew's Hospital, Northampton 90
St. Peter's Hospital for Stone 90
Samaritan Cottage Hospital 90
Tiverton Infirmary and Dispensary 91
Victoria Hospital for Children..... 91
West London Hos., Hammersmith-rd. 91

ASSISTANCIES, MEDICAL 93

ASYLUMS, HOMES, &c.:—
Abergwyngregyn (the Sharrits of Wales .. 94
A. J., Wood Green 88
Altadore Sanatorium, Co. Wicklow .. 87
Ashwood House, Kingswinford 89
Barnwood House Hospital 93
Bodorgan Manor, Bournemouth 87
Buntingford House Hotel, Herts 87
Camberwell House, Peckham-road.... 92
Clarence Lodge, Clapham-park 92
Cropston, The, Nottingham 93
Cotswold Sanatorium 93
Dairymple House, Rickmansworth .. 92
Dartmoor Sanatorium 90
Denson Johns' Sanatorium, Parkstone 87
Dunsmerry, Clifton 92
Dunstone Park Sanatorium, Paignton 90
East Anglian Sanatorium, Nayland .. 90
Fairford Retreat, Gloucestershire 89
Ferguson, Barnet 93
Finsen Light Cure, &c., Norwich 15

ASYLUMS—(Continued).
Flower House, Catford..... 93
Folkestone, Boarnemouth 94
Grove House, Church Stretton..... 93
Grove, The, Catton, Norwich 93
Hadley Open Air Sanatorium, Ipsden.. 87
Hampstead Invalid Home 94
Haydock Lodge, Newton-le-Willows.. 95
Herrison, Dorchester 92
High Shot House, Twickenham 93
Hitch, Mrs., Hollington 93
Hydro, Clevedon 89
Inverurith Lodge Retreat, Colinsburgh 94
Kingsdown House, Box 89
Lady Superintendent, Brighton 88
Lady Superintendent, Streatham 89
Lawson, Nordrach-on-Dee, Banchory 88
London Open - Air Sanatorium, Wokingham 87
Lufkaw Sanatorium, Pothary 89
Melbourne House, Leicester 93
Middleton Hall, Co. Durham 92
Midland Counties Asylum, Knowle .. 92
Moat House, Tamworth 93
Moorcroft Open - Air Sanatorium, Riversley 87
Nordrach in Wales..... 85
Nordrach-upon-Mendip Sanatorium.. 86
Northlands Retreat, Wandsworth 89
Northwood House, Winterbourne.... 94
Norwood Sanatorium 87
No. 142, L.O., Strand..... 86
No. 198, L.O., Strand..... 86
Ockhi Hills Sanatorium 87
Overdale, Whitefield 94
Painswick Sanatorium..... 88
Perlesea, Winchelsea 94
Plas-yn-Dinas, Merionethshire 86
Plympton House, South Devon 93
Price, High Pitfold 93
S. C., Canonbury 91
Reservoir Open-air Sanatorium 86
Shaftesbury House, Formby..... 94
Sidlaw Sanatorium, Auchterhouse 88
Silver Friend, Teignmouth 89
Springfield House Private Asylum, Bedford 92
St. Andrew's Hospital, Northampton 93
St. Luke's Hospital, E.C. 93
Stocker, Craven-street 93
Stone House, Canterbury 86
Stourfield Park Sanatorium, Bournemouth 88
Stretton House, Church Stretton 93
Sunshine, Guy's Hospital 88
Thundercliffe Grange, nr. Rotherham 94
Turner House, Leicester 93
Vale of Clwyd Sanatorium..... 95

ASYLUMS—Continued.
Warneford Asylum, Oxford 89
West Malling-place, Kent 94
Weston-super-Mare Nursing Home .. 89
Winchester House, Kingston-on- 89
Woodford House, Exeter 95
Wye House, Buxton 87
Wyke House, Isleworth 93
Yarrow Convalescent Home, Broadstairs 94

BATHS:—
Smedley's, Matlock 89

FINANCIAL &c.:—
Birkbeck Bank 93
English and Scottish Law Life Office.. 89
Equitable Reversionary Interest Soc 89

HOMES, &c., WANTED 93

HOTELS:—
Barton Court Hotel, New Milton 92
Montpensier Hotel and Chalets, Belmont 92
Mount Pilerin—
Grand Hotel Mont Pelerin 92

HOUSE & ESTATE AGENTS:—
Elliott, Son, & Boyton, Vere-street .. 97
Estate Office, Ivorna Court 97
Hart, Tottenham 97
Hornbower & Flower, Cannon-street 97
Manager, Sunningdale Gate 97
Neville, Charles 97
Rayner, Ealing 93
Stapleton & Son, Stamford 96

LIFE & FIRE ASSURANCES:—
Prudential 80

MEDICAL ACCOUNTANTS, &c.:—
Turner 97

MEDICAL AGENTS:—
Hall & Hardwicke 97
Lee & Martin..... 93
London Medical Agency 97
Manchester Medical Agency 97
Manchester Medical, &c., Association 93
Medical Agency 95
Moore 97
Meeke, Herbert 94
Meeke, J. C. 94
Orridge..... 96
Peacock & Hadley 93
Reynolds & Branson 96
Scholastic, Clerical, &c., Assoc. .. 94, 95
Turner 93
Wilson & Son 93

MEDICAL SCHOOLS (LONDON):—
Cooke's School of Anatomy 78
West London Post-Graduate College.. 79

NURSING INSTITUTES:—
General Nursing Association 81
Hos. for Sick Children, Gt. Ormond-st. 81
Leeds Trained Nurses' Institution ... 81
London Nurses' Association 81
Male and Female Nurses' Assoc. 81
Male Nurses' Association 81
Male Nurses' Co-operation 81
Middlesex Hos. Trained Nurses' Inst 81
Nurses' Co-operation, Portland-place 81
Queen Charlotte's Lying-in Hos..... 81
St. John's House 81
Temperance Male and Female Nurses' Co-operation 81
Temperance Male Nurses' Co-operative 81
York-road General Lying-in Hospital, Lambeth 81

OFFICIAL NOTICES:—
College of Preceptors 78
Hospital for Diseases of the Throat, Golden-square 78
Indian Medical Service 78
King's College, London 78
London Post-Graduate Association .. 79
London Throat Hospital 79
Mount Vernon Hospital for Consumption 78
Naval Medical Examination 79
Royal College of Physicians of Lond. and the Royal College of Surgeons of England 79, 80
Royal College of Physicians of Lond.. 78
Royal London Ophthalmic Hospital.. 78
St. John's Hos. for Skin Diseases 79

PARTNERSHIPS & PRACTICES. 97

RAILWAY & STEAMSHIP CO.'S:—
Co & & Son—Nile Tours 80
Hickey, Dean-street & Co.—
Trips to Jamaica..... 80
New Zealand Shipping Co..... 80
Royal Mail Steam Packet Co.—Tours 80

SCHOOLS, PREPARATORY, &c.:—
Manchester Physical Training College 79

TUTORS & LECTURERS:—
Dauresne 79
Fellowships 9
Gemmell 79
Gooch 79, 80
Kerin 80
No. 862, L.O. 7
Van Praagh..... 83
Weymouth 16

(For Index to Trade and Miscellaneous Advertisements see page 4.)

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INDEX—(CONTINUED).

TRADE AND MISCELLANEOUS ADVERTISEMENTS.

COVER.

PAGE

CHEMISTS & DRUGGISTS:—
McKesson & Robbins—
British Pharmacopœia Pills iii
Vinolia Co., Ltd.—
Vinolia ii

FOODS:—
Allen & Hanburys—
Allenburys Milk & Cereal Diet iv

WATCHMAKERS, &c.:—
Smith & Sons, Ltd.—
Doctor's Watch iii
Strand Half Chronometer iii

BOTTLE MERCHANTS:—
Imray 13
Islington Glass Bottle Company 13
Kilner Brothers, Ltd 99

CARRIAGES, HORSES, &c.:—
Armstrong—
Coachmen's and Grooms' Liveries 15
Garland Wagon Co.—
Garland American Carriages 17
De Dion-Bouton, Ltd.—
Motor Carriages 17
Duryea Co.—
Duryea Power Carriages 18
Mayhew & Son—
Medical Cowpe 15
Pellant—Motor Cars 15
Powell—Motor Car 15
St. John Ambulance—
Invalid Carriages 15
St. George-street, Portman-square—
Secondhand Carriages 13

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Castor Oil 67
Antitoxins, Sera, &c. 42
Bynin Assays 41
Amarcin Chemical Co.—
Amarcin Tablets 88
Angier Chemical Co.—
Angier's Emulsion 28
Armour & Co.—
Suprarenalin 85
Bayer Co.—
Pharmaceutical Preparations 54
Bogen Co.—Mag. Dioxide 69
Brin's Oxygen Co.—Brin's Oxygen.... 68
British Druggists—
Hypogas 68
Batogas 68
British Iron Milk Syndicate—
Iron Milk 70
Bullock & Co.—
Pepsine Perel 67
Acid Glycerine of Pepsine 67
Burgoyne, Burbidges & Co.—
Dental 66
Balocresol 66
Burroughs, Wellcome & Co.—
Tabloid and Soloid Trade Marks... 49
Xenier Solution 48
Saxin 43
Menthol Snuff 43
Hemisine Products 43
Tabloid Glycerophosphates 54
Chassny & Co.—
Glyco-Thymoline 33
Dionoques 33
Glyco-Hercin 31
Comar & Son—
Rosury's Iodinated Wine 50
" Syrup 50
" Cacodylate of Sodium (Clin) 50
" Lecithine (Clin) 50
Cox & Co.—
Pills and Tablets 87
Duncan, Flockhart & Co.—
Chloroform 30
Chloryl Anæsthetic 30

CHEMISTS—(Continued). PAGE
Fellows—Syr. Hypophos. Co., Fellows 12
Ferrobrom Co.—Ferrobrom 12
Gale & Co.—
Linctus Heroin Co. 69
Liq. Saponis Ætherei 69
Hewlett & Son—
Mint. Pepsinæ Co. c. Bismutho 67
Hudson—Rumenthol Jujubes 54
Kaye & Co.—
Glycerols 32
Krocehyle Co.—
Barff Rare Cigarettes 98
Malines Manufacturing Co.—
Malines with Cod Liver Oil 80
" with Hypophosphites 80
" with Creosote 80
Matthaei & Co.—Dry Yeast 69
Meister Lucius & Brüning—
Valyl-Hoechst 28
Albargin 28
Oxaphor 28
Pyramidon 28
Anæsthesin 28
Trigemin 28
Pegnin 28
Guiacanol 28
Newbery & Sons—
Tono-Nervine Tablets 29
Cascara Elixir 29
Bromo Soda 29
Tono Sumbul Cordial 29
Inginvin 29
Obesity Tablets 29
Parke, Davis & Co.—
Antidiphtheria Serum 78
Salmon & Co.—
Silligen's Nutrient Suppositories .. 69
Richards—Lactopeptine 38
Savory & Moore—
Pancreatic Emulsion 37
Scott & Bowne—
Scott's Emulsion 59
Smith, Ltd.—
Chloroform 40
Tela Vesicatoria 40
Rose & Carrh. Liq. 40
Squire & Sons—
Malteglobin 35
Kaseu 34
Cyanalbe 34
Sanaline 34
Kasak Elixir 34
Tamar Indien Grillon 54
Willows, Francis, Butler & Thompson—
Essence of Senna 54
Zimmermann, A. & M.—
Schering's Preparations 36

INHALERS:—
Pearce 14

FOODS:—
Allen & Hanburys—
Allenburys Milk Foods 63
" Malted Foods 63
Aylesbury Dairy Co.—
Wanamixed Milk 24
Benger's Food 35
Bischhoff's Diabetic Preparations 67
Bovril (Limited)—Invalid Bovril 62
Cadbury's Cocoa 65
Callard & Co.—
New Diabetic Foods 69
Carnrick & Co.—
Liquid Peptonoids 47
Coleman & Co.—
Wincarnis 66
Digestible Tea Syndicate, Ltd.—
Plasmon Tea 71
International Plasmon, Ltd.—
Plasmon 12
" 55
" Arrowroot 45
" Oats 12
" 71
Lemco—Lemco Cookery Book 12
Mansion Food Co.—Maltico 71
Nicolay & Co.—
Hæmatogen 44

FOODS—(Continued). PAGE
Roborat Co.—Roborat 70
Smith & Co.—Hall's Wine 61
Tibbles' Vi-Cocoa, Ltd.—Vi-Cocoa 60
Valentine's Meat Juice Co.—
Meat Juice 100
Van Abbott & Sons—
Foods for Diabetics and Obesity .. 71
Wallace & Sons—
Sanitary Milk Supply 81

FURNITURE, &c.:—
Carter—Invalid Furniture 19
Maple & Co.—
Inlaid Linoleum 18
Wisconsin Trading Co., Ltd.—
Excelsior Adjustable Table 13

HOSIERS, &c.:—
Samuels—Shirts and Collars 73

HND. & SURG. APPLIANCES:—
Bailey & Son—
Abdominal Belts 19
Indiarubber Urinals 19
Beach's Thermo Cautery 77
Lee—X-Ray, High Frequency, &c., Apparatus 15
Dowding Radiant Heat Co.—
Dowding Radiant Heat and Light Treatment 17
Evans & Wormull—
Improved Locker 72
Fairbanks Co.—
Personal Weighing Machines 72
Holland—Inlaw Arch Seat 77
Krohne & Sesemann—Bandages 14
Lewis—Human Osteology 6
Mackarian & Co.—
Antiseptic Dressings, &c. 77
Marconi's Wireless Telegraph Co.—
Induction Coils 100
Millikin & Lawley—Osteology, &c. .. 76
Pond—Arch Support Socks 14
Popp & Plumbe—
Elastic Stockings 74
Abdominal Supporting Belts 74
Rolleston & Sons—Shampoo Tissue 14
St. Dalmas & Co.—
Leicester Varicose Leg Bandage 30
Sykes, Josephine & Co.—
Corsets and Belts 76
Wanzer & Sons—
High Frequency Apparatus 76
Wood—Vinolo 74

MINERAL WATERS:—
Charing Heath Water Co.—Charing... 64
Apollinaris 59
Canwal, Ltd.—Canwal 71
Cheltenham Pavilion 69
Chubb, Thomas, Water 71
Hogg & Son—Piperazine Water 71
Idris & Co.—Royal Table Waters 69
Ingram & Royle—
Leven Water 63
Salutaris Water Co.—
Salutaris Water 62
Wheeler & Co.—Anti-Lactic 70

MUSICAL INSTRUMENTS:—
Angelus Piano Player 21

PHOTOGRAPHY:—
Christy & Co.—
Schleussner's Rontgen Plates 77

PRINTERS & ENGRAVERS:—
Cooke & Co.—
Brass Name Plates and Lamps 74
Outfitters—
Brass Door Plates 99
Hemsley, &c. 99

SANITARY APPLIANCES, &c.:—
Aymard Patent Milk Sterilizer Co.—
Milk Sterilizer 10
British Lysoform Co., Ltd —
Lysoform 25

SAN. APPLIANCES—(Continued). PAGE
Fennell & Johnson—
Enoi-Enisot 89
Jeyes' Sanitary Compounds Co.—
Cyllin 87
Sanitas Co.—
Sanitas Disinfectants 75
Southall Bros. & Barclay—
Accouchement Sets 14
" Sheets, &c. 14
Wright, Layman & Umney—
Liquor Carbonis Detergens 27

STATIONERY, &c.:—
John Heath & Co.—Pens 75
Parkins & Gotto—Doctors' Bills 18

STOVES:—
Clark & Co.—Syphon Stoves 73
Roberts—
Terra Cotta Portable Stoves 75

TAILORS, BOOTMAKERS, &c.:—
Bult—Overcoats 73
Dowie & Marshall—Boots 76
Emerson Shoe Store—
Emerson Boot 74
Evans & Co.—
Frock Coat 73
Fisher & Sons—
Chesterfield Overcoat 73
Hamilton & Co.—
Dress Suit 73
Capes Ulster 73
Russian Fur Co.—
Gentlemen's Fur-lined Overcoats 73

TOBACCO, CIGARS, &c:—
Andianis & Co.—
Marsuma Cigars 21
" Cigarettes 21
" Smoking Mixture 21

TYPEWRITING, &c.:—
Cambridge Typewriting Agency, Adelphi 15
Metropolitan Typewriting &c. Agency, Chancery-lane 15
Taylor's Typewriters Co.—
Typewriters 15

VACCINE LYMPH:—
Calf Vaccine Institution 75
Hime—Glycerinated Calf Vaccine 75
Jenner—Institute for Calf Lymph 75
Rebman—
Glycerinated Pure Calf Lymph .. 75
Renner's Calf Lymph Establishment.. 75
Wyleys, Ltd.—Calf Lymph 75

WATCHMAKERS, &c.:—
Benson—Doctor's English Watch 74

WINES, BEER, SPIRITS, &c.:—
Buck & Co.—
"G B" Diabetic Whisky 71
Brown & Pank—
Fine Vintage Brandy 72
Danville's Irish Whisky 63
Gautier's Liqueur Brandy 71
Mackenzie & Co.—
Pure Highland Malt Whisky..... 70
Martell's Three Star Brandy 64
Tanqueray, Gordon & Co.—
Dry London Gin 65
Wright & Son—
Old Grans Special Toddy.....100

MISCELLANEOUS:—
Bell & son's Laundries..... 14
Clarke—
Operation Instruments for sale .. 99
Collins—Operating Table, &c. 99
Langford—Companion, &c..... 10
M'Caw, Stephenson, & Orr—
Secotine..... 74
Osborne, Garrett & Co.—
Kropp Razors 76

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A Lecture
ON
SOME PRACTICAL POINTS IN ABDOMINAL SURGERY;
WITH SPECIAL REFERENCE TO A SIMPLE TECHNIC FOR APPENDICECTOMY AND INTESTINAL ANASTOMOSIS.

Delivered at the Annual Meeting of the Montgomery Gynæcological Society of the Jefferson Medical College, Philadelphia, Pa., on Feb. 2nd, 1904,

By FREDERICK HOLME WIGGIN, M.D.,

VISITING SURGEON TO THE CITY HOSPITAL, AND GYNÆCOLOGIST TO ST. ELIZABETH'S HOSPITAL, NEW YORK; FORMERLY PRESIDENT OF THE NEW YORK COUNTY AND STATE MEDICAL ASSOCIATION AND VICE-PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION.

GENTLEMEN,—In thinking over the various difficulties encountered in the earlier years of my professional career in an effort to find a suitable subject as a basis for my remarks this evening, it has occurred to me that possibly a few words in regard to the general care of patients about to undergo an abdominal section, both before and after the performance of the operation, might prove useful to you, if serving only to impress more deeply on your minds matters that already have probably been taught you by your able professors, and as diseases of the vermiform appendix and intestinal injuries are so often associated with pelvic disorders I propose also in the course of my remarks to describe a simple technic, satisfactorily employed for many years in the removal of the appendix, and that of an easy and uncomplicated method of uniting divided bowel ends. Many of the details about to be described may seem to some of you unimportant and unworthy of your attention, but rest assured they are all of great importance and taken in their entirety have enabled me to reduce the rate of mortality following operations undertaken by me for the relief of chronic intra-abdominal disorders from 20 per cent. or more 15 years ago to 1 per cent. or less at the present time.

PREPARATION OF THE PATIENT.

When the condition for which the operation is to be undertaken is chronic and all the time desired can be had for the preparation of the patient for the ordeal which she is to undergo, much can be done in the way of preparatory treatment which will not only diminish the risk about to be incurred by her but will ultimately hasten convalescence and save the operator many anxious hours. In such a case it is for the patient's welfare that the hospital where the operation is to be performed should be reached or the trained nurse employed, if the patient is to remain at home, at least one week prior to the date fixed upon for the operation. This allows the individual to become accustomed to the attendants or the environment which is of undoubted importance, as it tends to lessen the nervous tension which is naturally great in such a crisis even in the best of circumstances. During this week the sufferer should be encouraged to spend much of the time in the recumbent position for the purpose of getting thoroughly rested, and massage should be employed as it improves the circulation, promotes digestion, and improves the general bodily welfare. As far as it is compatible with a healthy mental condition visitors and friends should be excluded. The nurse should keep a daily record of the patient's bodily temperature, pulse, and respiration. An examination of the heart and lungs and an analysis of the urine should be made at this time. And it is of great importance that the intestinal canal should not be distended by gas at the time of the operation; attention must be paid to unloading and emptying the bowels as well as to getting the digestive organs into good working order. This is best accomplished, in my experience, by giving at 10 o'clock each evening for the first three days in this week of preparation two ounces of a mixture of equal parts of castor oil and glycerine, to which five drops of tincture of opium have been added to prevent griping. This in turn is followed on each of the succeeding days, except that fixed upon for the operation, by an enema of from two to four quarts of saline solution, the rectum finally being washed out with a pint of soapsuds three hours before the performance of the operation. The large enema, just alluded to, is best given with the patient lying in the dorsal position with her hips elevated and her shoulders and head depressed, a fountain syringe being used for the purpose, the reservoir of which should not be elevated more than 18 inches above the patient's body. The fluid should have a temperature of 120° F. and should be introduced into the canal slowly, being allowed to flow for two minutes, then intermitted for five minutes, and again allowed to flow for two minutes. If the patient has an urgent desire to go to stool after a pint of the solution has been introduced into the bowels it is best to allow her to do so, and then after a short interval for rest the process just described can be repeated until she complains of a feeling of distension, intestinal colic, or nausea, which does not pass away within the five-minutes interval. By perseverance in the manner above described several quarts of saline solution can be usually introduced into the colon in the course of three-quarters of an hour with but slight discomfort to the patient who should be encouraged to retain the fluid for from 30 to 60 minutes before it is allowed to escape. The administration of these enemata should be supervised by the physician, as the nurse seldom knows how to accomplish the introduction of the desired quantity of fluid into the intestinal tract, or if she has the knowledge and experience she has not sufficient authority over the patient to effect the desired result.

The patient's diet during this week of preparation should be of an easily digestible nature and she should be encouraged to partake freely of water for the purpose of getting the bodily tissues well filled with fluid. Hot baths of ten minutes' duration should be given daily, not only for cleansing purposes but to promote the secretions of the skin and kidneys, special attention being paid to the navel and pubic region. The time of operation should when possible be arranged for a few days following the cessation of the menstrual flow and the vagina cleansed by douching. The administration three times daily of a hypodermic injection of 30 minims of a specially prepared aqueous solution of ergot, in which from $\frac{1}{10}$th to $\frac{1}{20}$th of a grain of strychnine or spartein ($\frac{1}{30}$th of a grain) is dissolved, will often prove of great benefit in regulating the circulation, overcoming nervousness, inducing sleep, and promoting the action of the bowels—in other words, acting as a general tonic to the system and serving to prevent the occurrence of shock at the time of the operation, as has been pointed out by Livingston. The formula of the ergot solution recommended by him is as follows. Dissolve two grains of chlorotone in one ounce of sterilised distilled water, in which solution dissolve one drachm of Squibb's aseptic solid extract of ergot, and filter. In making these injections the needle should be pushed deeply into the muscular tissues and the fluid injected slowly to avoid over-distension of the tissues and consequent pain. There need be no fear of an abscess resulting provided the skin, syringe, needle, and solution are sterile. The best place which I have found for making these injections is the patient's left deltoid. While the first of these injections in a person whose general condition is poor is apt to induce redness and swellling of the part and sometimes causes considerable pain, subsequent injections will not tend to increase this swelling but rather to make it disappear. This can also be aided by the application of a wet dressing. In a recent case so treated the patient, who had a weak heart and consequently feeble circulation, was so toned up that at the end of a period of anæsthesia lasting two hours, during which a serious operation was performed, her pulse-rate was no higher than at the beginning. If, however, circumstances do not permit us to follow the plan of preparation just outlined, the best course to pursue, in my opinion, is to give the patient the day before the operation two ounces of the castor-oil mixture already mentioned, this to be followed after it has taken effect by a large saline enema, and this in turn the next morning about three hours before the operation by a small enema of a pint of soapsuds for the purpose of washing out the rectum. The patient's skin covering the abdomen is prepared for the operation on the previous day, when practicable, by thoroughly cleansing and shaving it, applying a soap poultice for four hours over the site of the proposed incision, then replacing it, after the soap has been washed off, by a compress moistened in a 1 per cent. formalin solution,

which is covered with rubber tissue. This compress is allowed to remain until the patient is placed on the operating table. It is wise to fix upon as early an hour of the day as possible for the operation, as the patient in this case has less time in which to become exhausted from want of food, or restless, or nervous from the dread of what is to come. It is of great importance that, once the hour has been determined, there should be no postponement, as I have seen patients almost collapse under the extra nervous strain entailed by even an hour's delay.

If the operation is to be performed at an early hour—i.e., 8 A.M.—the patient should be given a peptonised milk punch at 11 o'clock the previous evening and another at 5 A.M. if she is awake. If an afternoon hour has been decided upon additional peptonised milk punches may be given to the patient at 8 and 11 A.M. If the case is of an acute character and an immediate operation is demanded little more can be done than to shave and to cleanse the skin in the manner already described, or the skin can be prepared after the patient is placed on the operating table by the use of a germicidal depilatory, which will be referred to again later. If the patient is suffering from collapse due to intestinal perforation an effort should always be made to stimulate her by hypodermic injections of ergot and strychnine and intravenous injections of saline solution. If the patient does not respond to this stimulation the operation should not be performed. If, on the other hand, the patient rallies the operation should be done with as little delay as practicable, but even in these cases it should not be forgotten that we must, to be successful, have plenty of light, assistants, and facilities for intra-abdominal irrigation.

When the operation is to be performed in a private residence a room with a north light should preferably be selected. Its furniture should be removed at least 24 hours before the room is to be used for this purpose. After it has been thoroughly cleansed the windows should be left wide open for two or three hours, then closed, and the woodwork wiped with bichloride solution, 1 in 1000, the floor being dampened with the same solution. A table, 20 inches wide and 30 inches high, and varying in length according to circumstances, will be needed, as well as several small tables or stands, and a wooden-bottomed chair. All of these articles should be cleansed before placing them in the rooms; they should be washed with bichloride solution shortly before being used. Several large pitchers, four or five basins, several platters, and a fish kettle for sterilising the surgeon's instruments will also be needed. All of these latter articles not made of metal should be cleansed and immersed in bichloride solution until needed in the operating room. The room should be closed after all the articles of furniture have been placed in it and should remain so until needed. For emergency operations it is best to make no attempt to clean the room in order to avoid vitiating the air with dust; the floor should, however, be covered with a sheet wet with bichloride solution. Several dozen towels sterilised by boiling or by steaming in a steriliser, and several gallons of cold and hot water sterilised by being boiled for one hour, will also be needed. The instruments are sterilised by being boiled ten minutes in a 2 per cent. soda solution, except those with a cutting edge which are immersed for five minutes in carbolic acid, 95 per cent., which is then washed off.

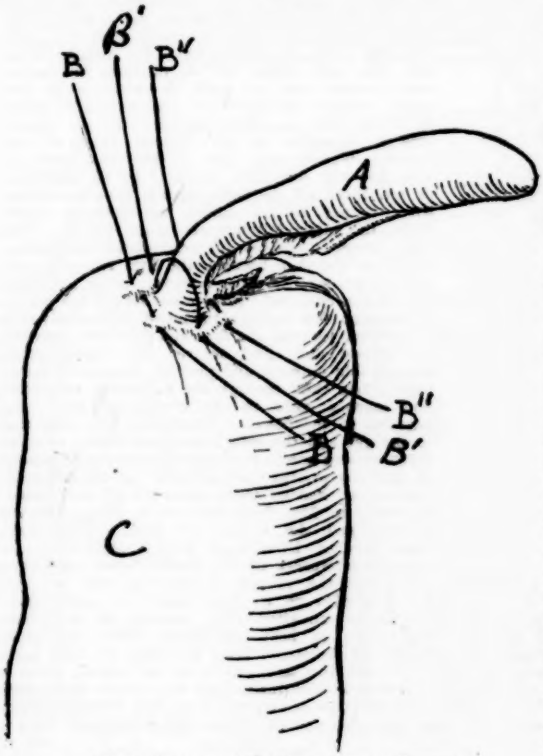
The following satisfactory method for preparing catgut is employed by the general drug department of the City and Bellevue Hospitals of New York City: (1) plain or smooth catgut, the fat is first removed by boiling in ether in a condenser for one hour; (2) it is then boiled in absolute alcohol for one and a half hours; and (3) it is then taken from the flask with sterilised forceps and put in glass jars containing a 1 to 1000 chloroform solution of biniodide of mercury. In using rough catgut each strand is wound on glass or wooden reels or is cut in desired lengths and tied up in figure-of-eight loops. The chromicised (rough) catgut is sterilised as follows: (1) the fats are removed from the rough catgut by boiling for one hour in ether and this is followed by soaking for one hour in alcohol; and (2) the catgut is then soaked in the following chromicising solution from 24 to 36 hours: sodium bichromate three grammes, absolute alcohol three litres, then boiled over steam until the bichromate has all been dissolved. The catgut is then removed and dried by being stretched over hooks, the ends being secured by artery clamps and allowed to remain for one week, and is then tied up in figure-of-eight loops and boiled for one and a half hours in absolute alcohol, and is finally placed in glass jars containing a 1 to 1000 chloroform solution of biniodide of mercury. The dressings are sterilised at the hospital in the usual manner by heat, but for private practice these and suture and ligature material are purchased from a trustworthy manufacturer.

The following method for cleansing the hands has been employed by me for the past five years and it has been found entirely satisfactory: (1) the hands are thoroughly washed in green soap and are then well rinsed in hot water; (2) they are then immersed in 65 per cent. alcohol and allowed to remain for a few minutes; and (3) they are then washed in an alcoholic solution of mercuric bichloride, 1 to 300. After this all traces of the previous washing solutions are removed by immersion in distilled water. The nails are cleaned by the use of aseptic gauze, wet with alcohol, which is rubbed along the edges of the nails and readily finds its way beneath them and removes any detritus that may be there. This is a better method than that of using a sharp instrument for the same purpose, as the gauze so used never injures any of the sensitive tissues beneath the nails and therefore lessens the opportunity for infection that sharp instruments used for this purpose sometimes offer. If there are any abrasions on the hands attention will be called to them by the smarting caused by their immersion in the alcohol and the abraded surfaces can then be cauterised with glacial acetic acid, care being taken to place the acid well between the edges of the cut by means of a wooden toothpick, and an eschar will be formed which will thoroughly protect the underlying tissues. After these preparations of the hands have been made all who are to assist in the operation put on sterilised rubber gloves. However, I do not usually wear them for intra-abdominal work, for the reason that even thin gloves tend to diminish the sensibility of the finger tips, which in this class of cases often have to take the place of eyes in furnishing necessary information to the operator.

The patient should be clad for the operation so as to reduce the bodily exposure to a minimum. The anæsthetic should be administered to her when possible before she is brought into the operating room. If for the administration of the ether a Dawbarn inhaler is used and the cage is filled with absorbent cotton, saturated with the fluid at the start, the mouthpiece being rapidly brought down over the patient's nose and chin, so as to exclude the air, the anæsthetic state will be quickly induced, the stage of excitement will usually be avoided, and the patient will be made insensible to pain and kept in this condition for an hour with but three ounces of ether, and for an additional hour with only two more ounces. After the patient has been placed under the influence of the anæsthetic agent and put on the operating table, on which sterilised blankets have been placed in such a manner as to admit of their being folded over the patient's chest and lower limbs, leaving only the abdomen exposed, the compress previously alluded to is removed and the skin is washed in much the same manner as that already described for the hands and is as follows. The tissues are well scrubbed with tincture of green soap by means of a piece of gauze which is preferable to the brush ordinarily used, as there is less tendency to injure the tissues and its use therefore lessens the danger of septic infection. After the soap has been well rinsed off the parts are washed with 65 per cent. of alcohol and this in turn is followed by a 1 to 300 alcoholic solution of mercuric chloride, the parts being finally washed with sterile water. The navel is washed out with a strong solution of hydrogen peroxide known as hydrozone, in which 30 volumes of oxygen are dissolved in water. When time does not permit of making these more or less elaborate preparations before the operation the skin can be prepared in five minutes after the patient is placed on the operating table by the use of a germicidal depilatory, several satisfactory ones being at present on the market. The preparation is thickly spread over the skin and allowed to remain on for five minutes and is then washed off with sterilised gauze and water, the parts being then ready for immediate operation. The only objection to the use of preparations of this kind for cleansing the skin is that the chemicals of which they are composed occasionally produce an annoying irritation.

While the operation is progressing the anæsthetist, who should always, when possible, be an experienced physician, should watch the patient constantly and pay no attention to the operation. As soon as the reflexes have disappeared he should raise the inhaler from the patient's face, replacing it

FIG. 1.



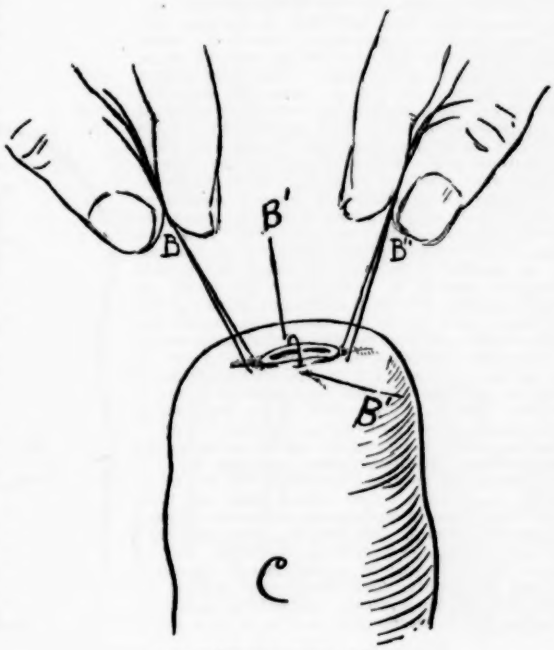
A, Appendix. B, B', B'', Primary sutures. C, Cæcum.

as soon as they return. As soon as the pulse increases from 20 to 30 beats a minute a hypodermic injection of ergot and strychnine is administered and repeated as needed from time to time until 90 minims of the ergot solution and one-twelfth of a grain of strychnine have been given. If in spite of these stimulating injections the pulse rises to 150 beats a minute an intravenous infusion of saline solution is at once resorted to.

The incision in the abdominal wall is made by preference over either one of the recti muscles, but when practicable over the right, the fibres of the muscles being separated in order to reach the peritoneum, a portion of which is grasped by two pairs of thumb forceps, lifted up, and an opening made in it; by so doing the danger of injuring the underlying intestines is diminished. It is of great importance while this is going on that the anæsthetist should see to it that the patient is breathing quietly and regularly; much can often be accomplished toward this end by removing the inhaler occasionally from the patient's face for the purpose of giving her undiluted air for a little while, embarrassed respiration and rigid muscles being due to the lack of sufficient oxygen. For the purpose of separating the parts catgut sutures are next inserted in the tissues forming the edges of the wound and are passed through all of them between the peritoneum and the fascia covering the rectus muscles. These sutures injure the tissues less than ordinary retractors and therefore leave the wound in a much better condition for primary union. These same sutures may when necessary be used to close the wound temporarily if by any accident the patient should come out from under the anæsthetic and attempt to vomit or cough during the operation, thus preventing the forcing of the intestines out upon the abdominal wall.

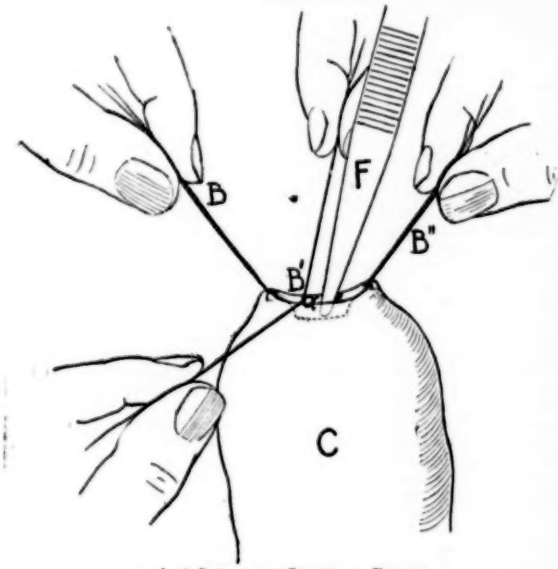
The abdominal cavity now having been opened we will assume that the appendix is diseased and requires removal and that portion of the cæcum to which it is attached is therefore now brought outside the abdominal cavity. After the vessels in the meso-appendix have been ligated and the appendix freed from it by division of the tissues the appendix is drawn through an opening made in a gauze pad which covers the wound and protects it and the abdominal cavity as well. Before the appendix is cut off, which is done as close to the cæcum as possible, three silk sutures are passed through the cæcal tissue, one on either side of it and the third midway between these two (as shown in Fig. 1), and the diseased organ is then removed. Before this is done the sutures on either side are given to assistants to hold in order that the cæcal tissue may not retract into the abdominal cavity at this critical stage (as shown in Fig. 2), and also to close the opening temporarily should the patient partially recover consciousness and attempt to vomit or to cough before the opening in it is permanently closed by tying the sutures. The tissues are next rendered aseptic by means of a drop or two of hydrozone; after this has been done the edges of the wound in the cæcum are turned in by an assistant by means of a pair of thumb forceps (as shown in Fig. 3) and the middle suture is tied and its ends are cut off before the ends of the other two sutures are cut, the site of the wound having again been disinfected by a few drops of hydrozone; a second row of sutures, this time chromicised catgut, No. 00, are placed in the tissues, as shown in Fig. 4, for the purpose, when they are tied, of making assurance doubly sure that healthy peritoneal surfaces are in contact (as shown in Fig. 5). For the further protection of the parts and to prevent the formation of intestinal adhesions which may cause trouble later the stump of the meso-appendix, when long, is attached to the cæcal tissue over the wound by one or two sutures.

FIG. 2.



B, B', B'', Primary sutures. C, Cæcum.

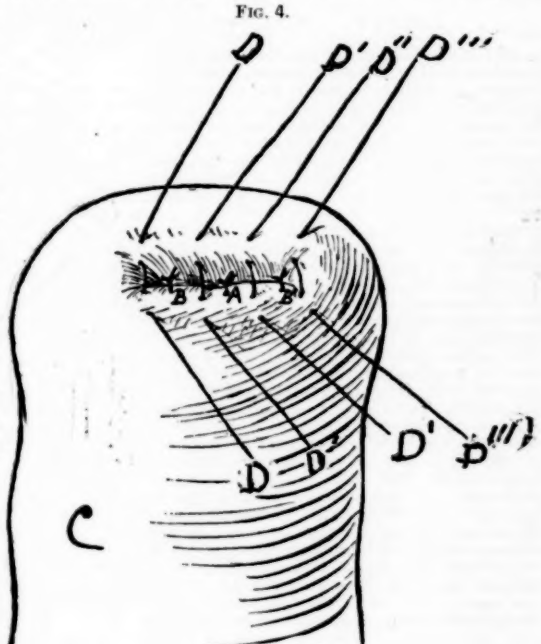
FIG. 3.



B, B', B'', Sutures. C, Cæcum. F, Forceps.

The method of intestinal anastomosis, to which I will next call your attention, is a modification of that of the late Professor Maunsell of London, who was the first to demonstrate that divided bowel ends could be safely united by means of sutures passed through all of their coats and that the knots of the sutures could be placed within the lumen. This he accomplished by bringing the invaginated bowel ends out through a slit made near the end of either one of the sections of the divided bowel before uniting them by sutures. My experience with this method of anastomosis, which he had occasion frequently to employ between 1893 and 1897, served to show him that this was an unnecessary complication, the sutures being even more easily passed and tied without making the slit and invaginating the ends before placing them than when it was done, and that, as it was safe to close the slit made in the bowel for the purpose of invaginating the cut ends by means of Lembert sutures, one or two of these same sutures could just as well be used in closing the intestinal wound direct. To this change of technic the attention of the profession was called in a paper read before the New York State Medical Association on Oct. 19th, 1898, and published in the *Medical Record* for Nov. 19th of the same year, which is as follows. The portion of the intestines to be excised is brought outside of the abdominal cavity accompanied by about six inches of healthy intestine on either side. It is next emptied of its contents above and below the damaged spot by passing it between the finger and thumb, and gently pressing it. The empty gut should be clamped on either side of the damaged portion of the bowel at a point six inches distant, to prevent the escape of fæcal matter at the time of excision or during the subsequent manipulation. Strips of gauze may be used for this purpose. The general peritoneal cavity should be protected with sterilised pads wrung out in hot saline solution. The portion of the intestines to be removed is excised by means of a V-shaped incision, having its apex in the mesentery and its lateral borders on either side of the diseased area. (See Fig. 6.) The mesenteric vessels are tied before being cut by passing a needle armed with catgut around them and tying them. The wound in the mesentery is closed by means of interrupted sutures. (See Fig. 7.) After the divided ends of the intestines have been disinfected with hot saline solution followed by a small quantity of hydrozone and the resulting foam after a short interval has been washed off, the proximal and distal ends are united by means of two sutures which are passed through all the intestinal coats. The first suture is placed at the inferior or mesenteric border and is passed in such a manner as to include a portion of the mesentery on both sides, as shown in Fig. 8; it is then tied in the bowel and the ends are left long in order that, by means of it and the next suture to be inserted, the intestinal tissues can be held in place while the other sutures necessary to complete the union are being put in. The second suture is placed directly opposite at the highest point of the superior border, and after it has been tied its ends are left long and are held by an assistant, as are those of the first suture; thus the intestinal tissues to be united are held in place while the other stitches are being passed. The third suture is passed for convenience in holding the parts together between the first two and in a similar manner, its ends, however, being cut short after it has been tied; three other sutures are passed in the same way through the intestinal tissue which is included between the first and third and between the second and third sutures, the needle going from within outward and piercing all the intestinal coats, then back through the peritoneal, muscular, and mucous coats to the interior of the other segment of the bowel. The sutures are then tied in the gut and the ends are cut off short; or these seven sutures can be conveniently and rapidly placed by partially passing the needle through the intestinal tissues and leaving them there till all are passed, as shown in Fig. 9, when each is drawn through in turn and the sutures are tied. When these nine stitches have been placed and tied half the circumferences of the divided bowel ends have been united and the process of suturing can be most conveniently carried on by next placing a suture halfway up on the ununited side, leaving its ends long and using them to hold the tissues while the parts are sutured as before. This suturing of the parts is continued till the last one is to be placed, when a Lembert suture is substituted. If the sutures have been properly placed about one-eighth of an inch from each other and from the edge and have been tied sufficiently tight it

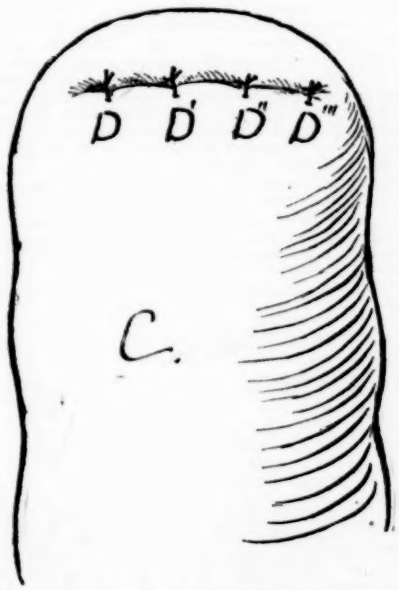
FIG. 4.



A, B, B', Primary sutures. C, Cæcum. D, D', D'', D''', Secondary sutures.

will be found that the peritoneum is turned in and that the stitches, with the exception of the last one, are not visible (see Fig. 10). If some of them have been so loosely tied that the sutures can be seen on the peritoneal coat it is best to insert a few Lembert sutures at these points. The sutured portion

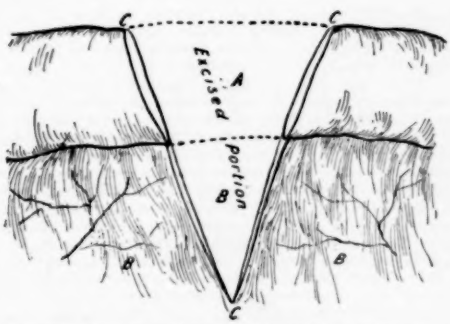
FIG. 5.



C, Cæcum. D, D', D'', D''', Secondary sutures tied.

of the bowel should then be washed with a small quantity of a 50 per cent. solution of hydrozone in saline solution, then with saline solution, and returned into the abdominal cavity, which should also be washed and filled with normal saline solution before the abdominal wound is closed.

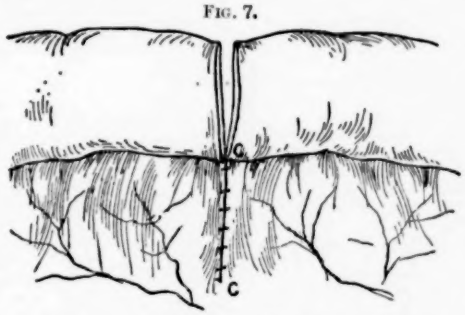
FIG. 6.



A, B, Portion of intestine and mesentery removed. B, B, Mesentery. C, C, C, Lines of the incision.

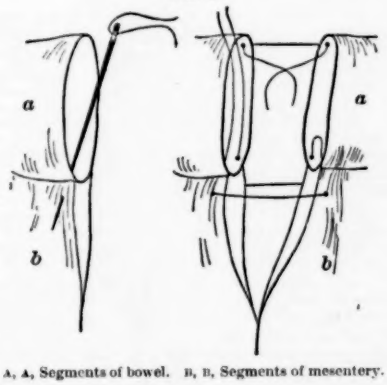
By the method of suturing just described any portion of the intestinal tract can be united to any other portion. Anastomosis of segments of ileum and colon may be effected by this method in the following manner. A suture is passed through all the coats of the greater and lesser intestinal segments at their mesenteric border, care being taken to adapt the border of either segment to the corresponding border of the other; this suture is tied and the ends are left long; a second suture is passed through the side of the larger segment, starting from the lumen at the point where the superior border of the smaller segment touches it and through which the suture is also passed, and is tied, the ends being left long; a third suture is passed through all the coats

FIG. 7.



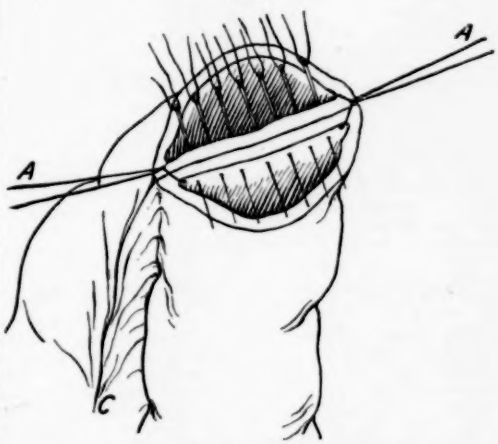
C, C, Incision in the mesentery united by interrupted sutures.

FIG. 8.



A, A, Segments of bowel. B, B, Segments of mesentery.

FIG. 9.



A, A, Sutures the ends of which are temporarily left uncut and by means of which the tissues are held while the needles are being placed. C, Mesentery.

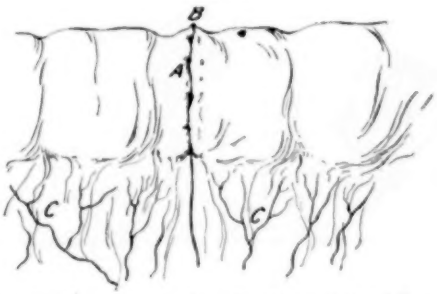
of the highest free end of the larger segment. The location of these sutures, which are also used to hold the parts in apposition while the other sutures are being passed, and the accurate adaptation of the mesenteric border of segments, are shown in Fig. 11. The other necessary sutures to

unite the divided intestinal edges are placed in the manner already described and the anastomosed bowel ends appear as shown in Fig. 12.

CLOSURE OF THE ABDOMINAL WOUND.

In closing the wound in the abdominal wall I have of recent years been in the habit of uniting the tissues layer

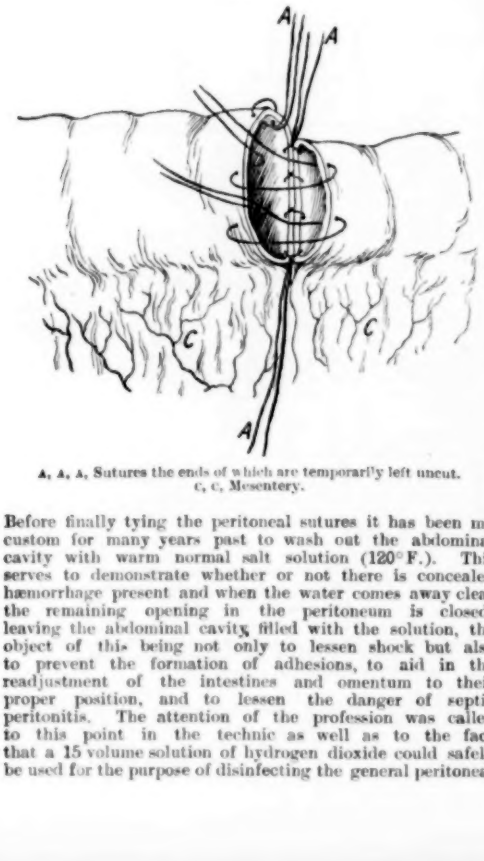
FIG. 10.



This figure shows the intestines after the completion of the anastomosis. A, Line marking the point of union between the ends of the bowel, showing that the peritoneal coat is well turned in and that the sutures and knots are all inside the gut with the exception of the last, for which a Lembert suture at B is substituted. C, Mesentery.

by layer by means of catgut sutures—drainage not being employed except in those cases where the cause of the infective trouble could not be removed—as by this means there are a greater certainty of the wound being properly closed and less danger of the formation of post-operative hernia.

FIG. 11.



A, A, A, Sutures the ends of which are temporarily left uncut. C, C, Mesentery.

Before finally tying the peritoneal sutures it has been my custom for many years past to wash out the abdominal cavity with warm normal salt solution (120° F.). This serves to demonstrate whether or not there is concealed hæmorrhage present and when the water comes away clear the remaining opening in the peritoneum is closed, leaving the abdominal cavity filled with the solution, the object of this being not only to lessen shock but also to prevent the formation of adhesions, to aid in the readjustment of the intestines and omentum to their proper position, and to lessen the danger of septic peritonitis. The attention of the profession was called to this point in the technic as well as to the fact that a 15 volume solution of hydrogen dioxide could safely be used for the purpose of disinfecting the general peritoneal cavity when followed by the use of the saline solution in a paper read before the Society of the Alumni of Bellevue Hospital on Nov. 1st, 1893, entitled "A Case of Contusion and Rupture of the Ileum with Peritonitis without External Wound successfully treated by Cœliotomy and Enterectomy, followed by Circular Enterorrhaphy (Maunsell Method)," and published in the *New York Medical Journal* of Jan. 20th, 1894. Since first employing this technic I can remember having had no case of intestinal obstruction due to post-operative intestinal adhesion, while, prior to the use in this way of the saline solution in the abdominal cavity, intestinal obstruction from this cause, following abdominal operations, was a frequent source of trouble. My opinion that the leaving in the abdominal cavity of a considerable quantity of normal saline solution tends to prevent the formation of intestinal adhesions has been confirmed by the opportunity afforded in a few instances of inspecting the intestinal tract of patients in the course of a secondary laparotomy, undertaken months or years afterwards for other difficulties, upon whom at the first operation numerous intestinal adhesions had been broken up and the technic just described had been employed, and none being found to exist at the time of the second operation.

FIG. 12.

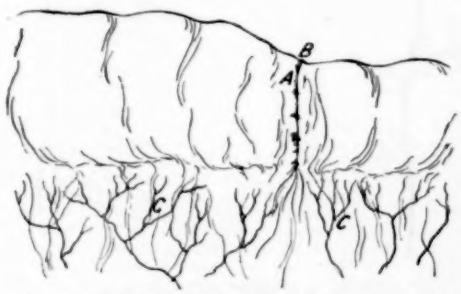


Diagram showing the united segments of the colon and ileum. A, Line marking the point of union between the ends of the bowel, showing the peritoneal coat well turned in and that the knots and sutures are all inside the gut except the last one, at point B, which is of the Lembert variety. C, Mesentery.

In bringing the separated fibres of the muscles together it is important not to pull the catgut sutures too tight, for by so doing the tissues are damaged and healing is retarded; one of the advantages of making the wound in the abdominal wall through either of the recti muscles is that the opening is practically self-closing. Before the cut edge of the fascia is united by sutures, retention sutures of strong kangaroo tendon are passed, and the divided edges of the fascia are then carefully united by sutures of fine chromicised catgut. If this part of the wound is firmly united it takes the strain off the other tissues and prevents all tendency to hernia, especially during the earlier weeks of the convalescence, when the union of the tissues is comparatively weak. When these retention sutures are used the patient may be allowed to turn in bed, if she is uncomfortable and wishes to do so. The edges of the skin are next approximated by means of a subcuticular suture of catgut. When this is satisfactorily done and primary union is secured there is practically no scar. After the wound has been closed in the manner described the tissues are washed with a solution of hydrogen dioxide, known as hydrozone, in full strength which is followed in turn by a solution of equal parts of absolute alcohol and ether. This serves to disinfect thoroughly and to dry the skin and permits of sealing and protecting the wound by means of a solution of celloidin, the formula of which is as follows: celloidin one part; absolute alcohol and ether, each four parts. Great care must be taken not to spread the celloidin solution too widely over the tissues as it has strong contractile powers and continues to draw the tissues together for some time after its application. If the moisture of the skin has been thoroughly removed before the application of the solution, this dressing will prove amply protective to the wound and no other dressing need be employed. Celloidin is not difficult to obtain as of late years it has been

used considerably for imbedding tissues for cutting purposes in the pathological laboratory. The solution being composed of alcohol and ether is naturally sterile. It is perfectly transparent, so that the slightest inflammation or suppuration in the wound is at once noticed. If too much of the celloidin solution is employed it may occasion severe discomfort. A little experience, however, enables the surgeon to determine how much of the solution to employ. If there is cause to fear oozing from the wound it is best not to employ the celloidin dressing, but if it is decided to do so it is best in such a case to protect the wound additionally by also covering it with gauze. Besides other advantages the use of this form of dressing prevents the discomfort and annoyances of various kind which attend the use of bandages, which become wrinkled, causing irritation of the skin or even serious bedsores; they also become soiled by urine or fæces, thus adding to the discomfort of the patient and also to the danger of possible infection. If all goes well the coating of celloidin remains on ten or 12 days, its transparency allowing the wound to be inspected thoroughly from day to day.

AFTER-TREATMENT.

Before the patient is removed from the operating table it has been found advantageous for the purpose of preventing the annoying gastritis which frequently follows the administration of the anæsthetic to wash out the patient's stomach with saline solution and in all cases, except those in which a complete intestinal anastomosis has been performed, to place in the stomach before withdrawing the tube four ounces of saturated solution of sulphate of magnesium, it being mechanically difficult for the stomach to throw off so small a quantity of liquid, the result generally being that the patient's bowels act within a few hours, thus lessening the danger of intestinal paresis. If during the operation stimulants have not been required to any extent a hypodermic injection of the solution of ergot already mentioned, combined with strychnine and spartein, or without either, according to the exigencies of the case, will tend to prevent the nausea which frequently follows the administration of the anæsthetic and it will also tend to make the patient comfortable by quieting the nervous system. These injections of ergot can be repeated advantageously from three to eight times each 24 hours, according to circumstances, until the patient becomes comfortable and the temperature and pulse become normal. The patient is now returned to her bed, which has previously been heated by hot-water bottles, which should, however, be removed before she is placed in it, as even with care blisters and burns are often produced by contact with them even when only moderately heated on account of the patient's sluggish circulation; she should be placed directly within the folds of a blanket. When a quantity of hot saline solution is allowed to remain in the abdominal cavity the patient generally leaves the operating table in good condition and with a warm moist skin. If the patient's pulse is weak and rapid it is wise to raise the foot of the bed somewhat. There is, however, usually little shock unless there has been much loss of blood during the operation.

During the first 12 or 18 hours following the operation it is usually best not to allow the patient anything by the mouth except a little warm water from time to time. If ether has been administered intelligently in small quantities and in the manner previously described, there will generally be little or no vomiting or nausea. If the demand for fluids is urgent, which is seldom the case when saline solution is left in the abdominal cavity, it is probably due to gastric irritation and can usually be successfully combated by two or three large doses of salicylate of bismuth given at four hours' intervals. The comfort of the patient during this early period of convalescence will be promoted by passing a rectal tube three or four inches into the rectum every four hours, leaving it in place for a little while and before its withdrawal placing in the bowels from 10 to 16 ounces of normal salt solution at a temperature of 120° F. This the patient should be encouraged to retain, as it will tend not only to promote the passage of gas but at the same time will serve as a stimulant to the circulation, kidneys, and skin. As has already been stated, when an intestinal anastomosis has been effected no cathartic should be placed in the stomach when it is washed out on the operating table or administered by the mouth for 72 hours thereafter, dependence being placed upon the saline enemata, already alluded to, to move the bowels if it is desired to have them act before this time.

The occurrence of concealed hæmorrhage which manifests itself during the first 24 hours by a rapid pulse-rate and increased rapidity of respiration, a falling body temperature, dilatation of the pupils, and clammy perspiration, should never occur when catgut is the material used to tie off the vessels, if the ligatures are carefully placed by passing them through the tissues with a needle, and the gut is taken directly from absolute alcohol in which it is preserved and tied first with a single knot and then with a double knot; as pointed out by Frederick of Buffalo, this prevents the gut from becoming loosened and untied and is the reverse of the usual manner of tying silk when used for a similar purpose. If 15 hours after the performance of the operation the nausea following the administration of the anæsthetic continues in spite of the treatment outlined and the patient has not had a movement of, or passed gas by, the bowels and her abdomen is beginning to be distended slightly, intestinal paresis should at once be thought of and a seidlitz powder administered in the following manner. The contents of the blue paper having been dissolved in a tumblerful of water, the contents of the white paper are dropped upon the surface of the solution at the time the patient is ready to drink it, a warning having first been given to her of the importance of retaining the liquid. The advantage gained by the administration of the powder in the above-described manner is that the acid dissolves slowly, the solution thus maintaining its agreeable taste till it is swallowed, and also that some of the gas, being generated in the stomach, exerts a counter pressure on the intestinal contents and thus helps to overcome the existing reversed peristaltic current and to start it once more away from the stomach and towards the anus. The physician should personally supervise the administration of the remedy and remain with the patient until the bowels act, for the time is a critical one and in a few hours the patient will either pass safely out of the threatened danger or be beyond hope of recovery. If the saline solution is retained by the patient one and a half hours later a tumblerful of hot peptonised milk will often cause the bowels to act freely, and when this occurs all danger is usually over, the patient ceases to regurgitate the stomach contents, passes gas by the bowel, and in a few hours is ready to take eight ounces of peptonised milk every three hours. Should the patient reject the saline solution I have found it advantageous to administer a second powder within 15 minutes or while the patient is somewhat exhausted by the act of rejecting the first, the importance of retaining the solution being explained again to the patient, who often must be ordered in rather an imperative manner to endeavour to retain it. The second effort is usually successful, provided the condition has been promptly recognised and treatment instituted. If, however, it is not a turpentine enema should be given or one consisting of six ounces of saturated solution of sulphate of magnesium and two ounces of glycerine.

The onset of peritonitis is indicated by a gradual but persistent rise of pulse, increased frequency of respiration, beginning on the second or third day, accompanied by a sharp and persistent pain, gradually increasing in intensity, the body temperature being elevated or not. If the pulse-rate rises and remains in spite of our efforts above 120 a minute the outlook is generally unfavourable. Much may still be done, however, by the judicious use of ergot, strychnine, and other stimulants and food, also by the introduction of large quantities of saline solution into the system by the bowel, as well as by promptly recognising and evacuating accumulations of fluid in the abdominal cavity, whether purulent or otherwise, the pressure from which alone often causes embarrassment of the lungs and heart, and by keeping the bowels well opened by the daily use of castor oil. Infection of the abdominal wound usually manifests itself by the occurrence of a secondary rise of body temperature four or five days after the operation has been performed and should be treated by opening the wound, washing the parts with hydrozone, and following this by the application of a wet dressing. The best treatment for an infected or sluggish wound is to irrigate it with saline solution to which tincture of myrrh and hydrozone have been added in the proportion of 1 to 16 each, followed by the application of gauze soaked in ozonised glycerine (glycozone). The wound as a result of this treatment will soon be in a condition to have its edges approximated by secondary sutures.

While the various symptoms described have individually to be considered and their meaning weighed, they also have

to be considered collectively, and in judging of the gravity of the patient's condition the facial expression is of the greatest value. A depressed and anxious countenance generally denotes a grave condition, and a cheerful one, even if accompanied by an elevation of the pulse and temperature, that the condition is not serious. In conclusion, I would impress upon your minds the thoughts that rest and careful looking to the regulation of all of the patient's bodily functions prior to the performance of an intra-abdominal operation lessen the danger during and following it, often changing the convalescent period from a time of great discomfort into one of peace and rest; and that in the long run the most successful surgeon, other things being equal, will be the one choosing the simplest technical methods and most willing and able to look after all that concerns his patient's welfare.

A Lecture
ON
INFANTILE SYPHILIS.

Delivered at the Hospital for Sick Children, Great Ormond-street, on July 14th, 1904.

BY GEORGE F. STILL, M.A., M.D. CANTAB., F.R.C.P. LOND.,

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GENTLEMEN,—I have chosen the term Infantile Syphilis as the title of my lecture rather than inherited or congenital syphilis in order that I may leave myself freedom at least to mention the occurrence of acquired syphilis in infants, for although this acquired form is extremely rare in comparison with the inherited disease its recognition is nevertheless a matter of considerable practical importance, especially if, as seems almost certain, the likelihood of contagion from it is far greater than from inherited syphilis. It is with the latter form of the disease, however, that I am chiefly concerned in this lecture and this afternoon I shall consider only those manifestations which appear in infancy.

A distinction has been drawn between inherited and congenital syphilis. Some writers would apply the term "inherited" only to those cases in which the syphilis dates from the time of conception, whilst they would call "congenital" only those in which the syphilis was transmitted at some later period of intra-uterine life, in other words, where the mother became infected during pregnancy. No doubt such a difference in the date of transmission does exist, but it is more than doubtful whether there exists any corresponding difference in the resulting manifestations of the disease, and in the absence of any special clinical significance for these terms it seems a pity to complicate the subject by what for all practical purposes is a distinction without a difference, so I shall speak indiscriminately of "inherited" or "congenital" syphilis.

TRANSMISSION OF SYPHILIS TO OFFSPRING.

Perhaps one of the most striking features in the family history of syphilitic children is the frequent absence of any history of syphilis in the mother. This might of course be explained by supposing that the symptoms of syphilis in the mother had been so slight as to be overlooked altogether, but this absence of observed symptoms is so common, whilst it would be so unusual for syphilis to occur without manifest symptoms, that such an explanation seems highly improbable. The fact, however, which is embodied in Colles's law, that a mother who has shown no symptoms of syphilis may suckle her infant who has congenital syphilis without fear of becoming infected, whilst a wet nurse would be infected by the same infant, seems to show that the mother has somehow acquired immunity. It has been suggested (Coutts) that this immunity is derived from the syphilitic fœtus, which *pari passu* with its disease develops an antitoxin and imparts this to its mother in sufficient quantity to confer immunity upon her. Such a view assumes that the father can beget a syphilitic child without giving the disease to the mother. Clinical evidence seems to show that this is so and that it is no uncommon occurrence.

The various modes of transmission, classified according as symptoms of syphilis are present in one parent or in both, might be arranged in order of frequency thus: (1) father syphilitic, mother healthy; (2) father and mother syphilitic; (3) mother syphilitic, father healthy; and (4) mother acquired syphilis during pregnancy. Does the mode of transmission make any difference to the disease in the infant, either in the character or in the severity of the symptoms? So far as my own observations go there would seem to be no corresponding difference unless it be that when the mother has acquired syphilis after the time of conception the infant is apt to be affected more severely than in other cases; but even if this be so—and I do not feel at all sure of it—the difference may depend merely on the recency of the disease in the mother.

And this brings me to another question: Does the stage of the disease in the parents influence in any way the character of the disease in the offspring? At first sight it appears obvious that the later the stage of the disease in the parents the less the severity of the disease in the child. How common is a record of successive pregnancies like this: (1) miscarriage at four and a half months; (2) miscarriage at five and a half months; (3) eight months child, lived two hours; (4) boy with marked symptoms of congenital syphilis who survived; and (5) apparently healthy, now aged five months. Or this, where the mother showed secondary symptoms of syphilis during her first pregnancy: (1) stillborn; (2) stillborn; (3) lived four days; (4) lived 19 days; and (5) idiot who survives with choroiditis and other marked symptoms of syphilis. Moreover, it has been shown that in the stillborn or short-lived infants of syphilitic parents there are often severe syphilitic lesions which certainly cannot be present in the later infants who survive. It is, of course, possible that the increasing duration of successive pregnancies and the longer life of the fœtus may depend upon diminishing placental disease—i.e., the decreasing severity of the syphilis may be in the mother and in the maternal portion of the placenta, not in the fœtus; but in face of the frequent occurrence of syphilitic lesions in the fœtus this explanation hardly seems probable for all cases. It must be admitted, however, that there are certain facts which are difficult to reconcile with any theory of progressive diminution in the intensity of the transmitted disease. The intensity of the disease may be greater in a later than in an earlier child; occasionally the disease may even be absent in one child and reappear in a later child. The following history illustrates these points: (1) twin, premature, both stillborn; (2) survived, shows interstitial keratitis; (3) (4) and (5) all miscarriages; (6) apparently entirely free from syphilis; (7) and (8) stillborn. I have no record of the subsequent children until (14) a girl, who came under my observation at six years and eight months with hæmoglobinuria, a condition which in children is usually associated with congenital syphilis. Even more curious are the cases in which one of a twin is healthy while the other has congenital syphilis. Several such cases have been recorded. One came under my own observation, an infant with severe and fatal syphilis who died at the age of seven months. His fellow-twin was apparently perfectly healthy.

SYMPTOMS.

Rarity of manifestations at birth.—It is customary to state that inherited syphilis very rarely manifests itself at birth; Diday even questioned whether symptoms of syphilis were ever present at birth. Undoubtedly it is very seldom possible to make a positive diagnosis so early, but I suspect that symptoms which are seen in the light of subsequent events to have indicated syphilis are present at birth in a larger proportion of cases than is usually supposed. Perhaps the most characteristic is the so-called syphilitic pemphigus; this was present at birth in two out of 100 cases under my observation. Jaundice the result of intercellular cirrhosis is occasionally present at birth; snuffling was noted after careful inquiry as present on the day of birth in 11 per cent. of my cases; some of the changes in the fundus oculi, particularly choroido-retinitis, are almost certainly intra-uterine in origin, and therefore present at birth; enlargement of the liver and spleen are also present at birth in some cases.

A curious association of congenital syphilis may be mentioned here, for it is noticeable at birth in some cases—namely, an unusually abundant crop of hair, usually, I think, dark in colour. This was present in 4 per cent. of my

cases and may perhaps be of some value as confirmatory evidence in conjunction with other symptoms; alone it certainly has no diagnostic value. Here also may be mentioned the so-called syphilis hæmorrhagica neonatorum which although not observed actually at birth has usually appeared within a few days after birth. Some observers have thought that spontaneous hæmorrhages in the newly born—e.g., from the stomach or bowel—are commonly due to congenital syphilis. I can only say that in my own experience such an association has been exceedingly rare; most cases of melæna neonatorum and other hæmorrhages in the newly born are not in syphilitic families and most syphilitic infants show no special tendency to hæmorrhages. There can be no doubt that the association exists, I have seen it myself more than once, and microscopic change, particularly endarteritis presumably syphilitic in origin, has been demonstrated in the small vessels in some fatal cases of melæna neonatorum; but none the less I think that the frequency of this association has been exaggerated and that it is actually very rare.

Order and frequency of symptoms.—I shall consider the symptoms of infantile syphilis in order of frequency and as far as possible in order of occurrence; but you will understand that while some symptoms usually occur during the first two or three months of life, and others later in the first or second year, there is no rigid sequence, and while it is useful for practical purposes to know how late or how early any particular symptom usually occurs considerable variation is to be expected.

Marasmus.—This may be mentioned first not only because it is noticeable in greater or less degree in a large majority of syphilitic infants but also because in its gravest form it frequently dates, if not from birth, at any rate from a few days after birth. It has seemed to me that wasting occurs in two different forms in congenital syphilis; the first and commoner is the moderate degree of wasting which accompanies almost any illness in infancy. This is associated with well-marked manifestations of syphilis and ceases when the accompanying symptoms of syphilis subside; it scarcely influences prognosis. The second is a progressive marasmus which often begins before any other manifestations of syphilis have appeared and which continues even when associated symptoms of the disease have disappeared completely under mercurial treatment; the wasting is independent of any fault in feeding or irregularity of the bowels, it may occur when the infant is breast-fed and free from vomiting and all other ordinary causes of marasmus; sometimes, and herein lies the urgency of diagnosis, it responds to treatment with mercurials but more often, I think, it fails to respond to any treatment and day after day the infant loses weight and after a few weeks, generally within three or four months after birth, it dies. In families where there is known to be syphilis in the parents, either from their own admission or from the occurrence of congenital syphilis in previous children, this grave form of marasmus may be recognised as due to syphilis before other manifestations are present, and in any infant under the age of three months who wastes persistently in the absence of the ordinary causes of marasmus the possibility of congenital syphilis should be considered, for, as I have said, although mercurial treatment often fails to arrest the wasting in such cases, occasionally it will save the infant.

Snuffles.—Snuffling occurs almost always within the first three months, usually within the first six weeks; it was present in 70 per cent. of my cases. The condition varies greatly in degree from a slight stuffiness of the nose up to a profuse discharge of pus, perhaps blood-stained, continually running from the nose, so that the infant cannot suck and is half asphyxiated if it tries to close its mouth; these severer degrees are, however, quite rare, and corresponding with this rarity is the fact that depression of the bridge of the nose results only in a small minority of the cases which have snuffles, and even more rare as a result is ozæna. The depression of the bridge of the nose may be produced very rapidly; in an infant recently under my care with very severe snuffles the bridge of the nose had markedly fallen in at the age of 12 weeks so that had the child lived he would have been permanently disfigured. Vigorous and early treatment, with local antiseptic applications by syringing, as well as internal mercurialisation, might do much to prevent this nasal deformity.

I need hardly remind you that infants, like older people, are subject to "cold in the nose" and snuffling may be due to this simple coryza with no taint whatever of syphilis. Adenoids also are not very rare even in infants a few weeks old and may be associated with some catarrh causing snuffling respiration. There are also some forms of idiocy, particularly Mongolian imbecility and microcephaly, in which a small naso-pharynx with a special tendency to catarrh is responsible for snuffling and snorting respiration quite apart from syphilis.

Skin eruptions.—These generally appear soon after the snuffles and almost always within the first three months. They are certainly very uncommon after the age of six months; in one of my cases the rash appeared at eight months and in another at one year. Some characteristic eruption was present in 69 per cent. of my cases. I shall not attempt to describe all the skin affections which have been observed in congenital syphilis; the most characteristic might be grouped as follows: 1. Macular, small reddish-brown, "raw-ham-coloured" areas, generally roughly circular, but running together into irregular areas, dry and sometimes finely desquamating on the surface; occasionally these patches are yellowish brown or fawn-coloured and have a dry glazed surface. This eruption may be present on any part of the body but is particularly characteristic in its tendency to affect the middle third of the face—i.e., if the face be divided into three parts vertically, the middle portion including the chin and upper lip, the nose, and inner end of the eyebrows, is specially affected and sometimes the only part affected by the syphilitic rash. 2. Erythematous, diffuse in distribution and occurring specially about the perineum and down the inner side of the thigh and leg as far as the instep of the foot; the skin may be dry and glazed and at the edge of the affected area there are often outlying small round patches of similar character. 3. Desquamative; either of the preceding is sometimes associated with a little fine branny desquamation of the affected areas, but apart from these there is a profuse desquamation of the palms and soles which, occurring in an infant under the age of three months, is very characteristic of congenital syphilis. 4. Fissures, usually radiating outwards from mucous surfaces—e.g., the mouth and anus; these generally occur within the first few weeks of life and are often deep enough to leave scars which last for the rest of life. 5. Bullous, the "syphilitic pemphigus" which, as already mentioned, is present at birth or within the next few days. 6. Condylomatous; these moist, warty-looking, flat-topped, slightly raised patches, usually of about the size of a threepenny-bit or smaller and situated in moist parts, for instance, about the anus or in the mouth, must be mentioned here, for although they differ from the other skin lesions of congenital syphilis in their tendency to appear and to reappear long after infancy they are, I think, most common in the first and second years of life. Lastly, I would remind you of the frequent occurrence in syphilitic infants of skin affections which exactly resemble such ordinary non-syphilitic lesions as eczema and erythema intertrigo; for instance, behind the ears there is often a very ordinary eczema whilst on the face there is a characteristic syphilitic rash in an infant who shows other well-marked evidence of the disease. Similarly a seborrhœic condition of the scalp or an ordinary erythema intertrigo about the groins and perineum frequently coexists with definite manifestations, cutaneous or otherwise, of congenital syphilis.

Whilst speaking of the skin lesions of this disease I must mention two symptoms which are very characteristic of inherited syphilis. I have already mentioned the abundant crop of hair which is sometimes a noticeable feature at birth in the syphilitic infant; a few months later the opposite condition (a more frequent and much more characteristic symptom) is sometimes present (it occurred in 6 per cent. of my cases), a thinning of the hair, so that it becomes sparse and scanty, never leaving complete baldness as in alopecia areata, but leaving so little hair that the baldness at once attracts notice and the more so as it commonly begins over the vertex and leaves for some time a fringe of thicker hair around the side of the head, somewhat after the style of a monk's tonsure. The other symptom is onychia, seen usually in early infancy and, I think, usually associated with some cutaneous lesion, especially, perhaps, with the desquamative lesions; the nails of the fingers and sometimes of the toes become dry and shrivelled and discoloured and soon are shed altogether, leaving a small base of newly formed nail which, if the infant is under treatment with mercurials, may speedily grow to a perfectly healthy nail.

Enlargement of the spleen.—Widely varying statistics have

been recorded on this point; some have placed the frequency as low as 10 per cent., some as high as 78 per cent. I suspect that this variation depends largely on difference of ideas as to what is to be called enlargement: if easy palpability be the standard, then 45 per cent. of my cases showed splenic enlargement, but including only cases in which the enlargement was at least one and a half fingers' breadth (about one inch) below the costal margin the proportion was 22 per cent. It is quite clear that absence of splenic enlargement weighs very little against the diagnosis of congenital syphilis and mere palpability, I think, is of very little value as positive evidence, for the spleen is often to be felt in infants who are free from all suspicion of syphilis; when, however, the spleen extends an inch or more below the costal margin, especially in an infant under the age of six months, it has, I think, some value as confirmatory evidence.

Eye affections, syphilitic in character, were present in nine out of 60 infants during the first year of life—i.e., in 15 per cent.; all these showed iritis or choroiditis. The value of ophthalmoscopic examination in the diagnosis of congenital syphilis is worth remembering, and in view of the probability that some of the fundus changes are intra-uterine in origin it may be of value in determining treatment even before other evidence of syphilis has appeared.

Laryngitis is one of the most frequent of the early symptoms. It was present in 14 per cent. of my cases. It occurs usually soon after the onset of the snuffles or rash. A hoarse aphonic cry in an infant under the age of three months should always suggest the possibility of congenital syphilis.

Epiphysitis was present in 11 per cent. Some observers have found it even more frequently—e.g., Scherer found it 11 times in 50 cases. The earliest onset in my cases was at two weeks and six out of 11 began during the first three months (six out of Scherer's 11 cases also began under the age of three months). It is one of the causes, if not the only cause, of the so-called "syphilitic pseudo-paralysis" and should always be suspected when an infant during the first half year loses the use of one limb, especially the upper limb, without apparent injury. It might be mistaken for infantile scurvy, but this disease rarely occurs under the age of six months and practically never under four months. Infantile paralysis also hardly occurs under the age of six months and rheumatism can be excluded, for it is almost unknown in infancy. The tenderness and pain on movement will usually suffice to eliminate a paralysis of cerebral origin which, moreover, is seldom limited to one limb as this syphilitic pseudo-paralysis usually is. The history of onset some weeks after birth serves to distinguish from the palsy which results from damage to the brachial plexus during birth. The diagnosis is important, for with mercurial treatment the pseudo-paralysis disappears completely in a week or two; local treatment is seldom necessary beyond protection of the flaccid limb from mechanical injury. But if the syphilitic origin of the condition is overlooked, apart from the suffering entailed to the infant, there is a risk of separation of the epiphysis and also of suppuration, which I have seen occur about the affected epiphysis with undoubted syphilis, perhaps from superadded pyogenic infection of the damaged tissue.

Orchitis, present in five out of 64 males—i.e., in nearly 8 per cent. of my cases—is another symptom which in early infancy is almost pathognomonic of congenital syphilis. The testes are enlarged to two or three times the normal size, are very hard, and quite free from tenderness. The condition may easily be overlooked unless specially sought; its detection is important, not only as an aid to diagnosis but also because early administration of mercury may prevent loss of function in these organs. It differs from tuberculous disease not only in affecting the body of the testis first and chiefly, whilst the epididymis is seldom appreciably affected, but also in being almost always a bilateral affection. In three out of my five cases it began at the age of 12 weeks, a time at which tuberculosis of any sort, and especially of the reproductive organs, is rare.

Brain affections, and indeed nervous affections of any sort, are usually stated to be very uncommon in congenital syphilis. According to my own figures 10 per cent. of children up to the age of 12 years with this disease showed cerebral affection of one kind or another, and even if only infants were included the proportion seemed to be nearly as high. Idiocy, pachymeningitis with cortical sclerosis, hydrocephalus, and cerebral palsies, all these are occasionally due to inherited syphilis, and although no one of them is a frequent manifestation, 8 to 9 per cent. of syphilitic infants show one or another of these cerebral affections.

Anæmia of a very profound degree is sometimes a result of congenital syphilis, most often, I think, towards the end of the first or in the second year. This anæmia may occur after all other manifestations of the disease have disappeared, so that at the time it is the only indication of syphilis. This was impressed upon me some time ago by the case of an infant whom I had treated for syphilis at the age of five months; he passed out of my observation for a time and at the age of about 18 months he was brought again with profound anæmia. I had forgotten the previous symptoms (syphilitic epiphysitis and condylomata) and was in great doubt as to the cause of the anæmia, which was the only symptom except some diffuse thickening of the epithelium of the tongue. The anæmia remained a puzzle until after some months large condylomata appeared at the anus.

The extreme pallor of the face with a brownish-yellow tinge especially about the nose and cheeks is very striking and may, even in the absence of other symptoms, suggest syphilis, but it is certainly not pathognomonic. This anæmia of congenital syphilis is not associated usually with any special enlargement of the spleen beyond the moderate degree which is common in this disease, and herein lies one difference from the so-called "splenic anæmia" the relation of which to congenital syphilis is still *sub judice* and in which enormous enlargement of the spleen is a characteristic symptom. Examination of the blood shows nothing to distinguish this profound anæmia of congenital syphilis from profound anæmia secondary to other conditions—for instance, rickets. Whether a study of the blood will draw any hard-and-fast line between this syphilitic anæmia and the so-called "splenic anæmia of infants" is still a moot point. Undoubtedly the blood in the latter group of cases presents features which might suggest a disease *sui generis*, but the very close association between this "splenic anæmia" and congenital syphilis and rickets must, I think, make us very cautious in accepting any such view. The *café-au-lait* tint which is sometimes described as characteristic of congenital syphilis differs considerably from the yellowish anæmia. The predominating tint is brown rather than yellow and it is seen, not in well-nourished infants as the anæmia is, but almost always in puny emaciated infants and at an earlier age than that at which the anæmia usually occurs.

Parrot's nodes and cranio-tabes.—The relation of these to congenital syphilis has been much disputed. By some they have been regarded as indubitable evidence of syphilis, by others as a product of syphilis and rickets combined, and by others again as due to rickets alone. If I may simply state my own opinion, formed as the result of some special observation on this point, I should say that neither of these symptoms can be taken as evidence of syphilis; that both of them are found far more often without syphilis than with it; that both of them may be produced by rickets alone; but that both of them are occasionally found with congenital syphilis apart from rickets. Of 100 cases of congenital syphilis under my observation only two showed Parrot's nodes and both these showed rickets also. I think it is quite possible that under the name "Parrot's nodes" two conditions, structurally different, though resembling one another clinically, are confused together, one being the result of syphilis and the other of rickets; at any rate, I can affirm from my own observation that these bosses on the skull show anatomical differences which seem to support this view.

Cranio-tabes has seemed to me to be very rarely due to syphilis; indeed, in examining the heads of syphilitic infants for cranio-tabes I have been struck with the firmness of the bones, which have often seemed to become firm and hard rather earlier than in infants who showed no evidence of syphilis; in my own experience cranio-tabes has been associated most often with laryngismus stridulus and tetany, which are both recognised as rachitic manifestations, and in most of these cases there has been no suspicion of syphilis. I have not time to do more than mention the ulceration of the tongue, the gummata on the bones and in the viscera, and the acute nephritis, which are all occasional symptoms of infantile syphilis.

CONTAGION IN INHERITED SYPHILIS.

I turn now to a very important practical point, the contagiousness of inherited syphilis: Is there any risk

that the infant may give the disease to anyone else? I have already referred to Colles's law which emphasises the extremely important fact that a mother can suckle her child who has congenital syphilis without risk of infection. It is hardly possible to exaggerate the importance of this, for the life of a syphilitic infant often depends upon the continuance of breast-feeding; the special frequency of gastro-intestinal disorders and marasmus in these infants makes it a matter of vital importance that the mother should suckle it if possible for the full nine months. A few cases have been recorded in which a syphilitic infant was supposed to have infected its mother, but in some of these there was a doubt whether the infant might not have had acquired syphilis and in any case the number is so small that such infection must be excessively rare and the risk is so infinitesimal that it can hardly be taken into account when the difference which suckling makes in the chances of the infant's survival is considered. But Colles's law, be it remembered, states also that the infant with inherited syphilis, although it does not infect its mother, will infect a wet nurse; and this raises the broad question as to the contagiousness of inherited syphilis. On this point there is a wide difference of opinion; I should like to quote first two statements—one from an old writer and the other from a recent. "The lesions of congenital syphilis," says Diday, "differ from those of ordinary syphilis by an infinitely greater power of contagion. And what is at the same time remarkable and deleterious in them is, that they transmit this same property to the person who receives the disease through them."[1] In the *Journal of the American Medical Association* of Nov. 5th, 1898, is the following remarkable statement by Dr. L. D. Bulkley: "Hundreds and thousands of cases of innocent syphilis have had their origin in innocent babes and too great care can hardly be exercised." (He is not speaking of acquired syphilis for he expressly says at the beginning of his paper that his remarks have reference only to hereditary syphilis.) "I have myself seen most lamentable instances, and not very recently had a grandmother with chancre within the nostril followed by most severe syphilis with prolonged brain symptoms who had received the infection from a syphilitic grandchild who died of the disease." In the same paper he says: "Multitudes of cases are on record where the disease has been thus communicated to those around by means of the feeding bottle from testing it"; and he adds somewhat inconsequently, "I have seen one case where this was believed to be the mode of infection."

Let me refer you now to a careful observer whose Hunterian lectures on infantile syphilis are an admirable contribution to the subject. Dr. J. A. Coutts says, after excepting one doubtful case, "I have personally never known an instance where syphilis was contracted from an infant with the inherited complaint, and this in spite of many thousands of healthy children and adults having been exposed to infection from cases under my care." He mentions also that as a result of special inquiry from 18 medical men connected with children's hospitals he could hear of only eight cases of supposed infection from children with congenital syphilis and four of these eight cases took the form of exceptions to Colles's law and might therefore by some be rejected as unreliable. In my own experience I have not met with a single case of infection from an infant with inherited syphilis. I have, however, heard of two cases in which infection (not of the mother) seemed to have occurred, and I am entirely in agreement with Dr. Coutts's conclusion, "that inherited syphilis is occasionally contagious is certain, but it is equally certain that the virulence of such contagion has been grossly and vastly over-estimated."

The practical outcome of these observations is clear: it is only right to warn parents that such a danger does exist, especially so long as syphilitic skin lesions, condylomata, or other specific affections of mucous membranes are present. Kissing of the syphilitic infant should be avoided altogether and those who must handle the child should wash their hands carefully after each handling; the filthy habit of moistening the "comforter" or "teat" in the mother's own mouth before giving it to the infant, objectionable and dangerous as it is in any circumstances, becomes even more so when children, following the example of their elders, do the same for the syphilitic infant. Only a few days ago a mother, whose little girl, aged about eight years, was born before syphilis appeared in the family, told me that this child frequently took the teat from the syphilitic baby's mouth and moistened it afresh in her own. Such a practice should certainly be forbidden.

[1] Infantile Syphilis, Translations of the Sydenham Society, p. 53.

TREATMENT.

In the treatment of infantile syphilis there is little choice of drugs: the only question is in what form should mercury be administered, in what dose, and for how long. I think that there is no form more generally useful for infants than grey powder. Combined with aromatic chalk powder a dose of half a grain can usually be given three times a day without causing diarrhœa; but if there is any looseness of the bowels Dover's powder may be given with the grey powder in doses of one-eighth of a grain for infants over three months of age, and one-fourth of a grain at the age of six months. I have also used the liquor hydrargyri perchloridi, but I think it is more liable to cause diarrhœa; an infant a month old can take three minims and an infant six months old can take from five to ten minims three times a day. Inunction of unguentum hydrargyri may be used either alone or, in severe cases, in addition to the internal administration; a piece of the size of an average green pea—a rough measurement of 15 grains—is gently rubbed over the abdomen or the inside of the thigh or arm at night and left covered over with a flannel bandage until the following morning when it is washed off; this to be repeated every night unless the skin shows signs of irritation, as it occasionally does. By one or other of these means, even in the most severe cases, an infant can rapidly be brought under the influence of mercury, and I know of no condition in which there is anything to commend the intramuscular or intravenous injections of iodine or mercury which have recently been advocated for infantile syphilis. Such methods, however suitable they may be for adults, are in my opinion wholly unsuitable for the treatment of the disease in infants; they involve an absolutely unnecessary infliction of pain and an equally unnecessary risk of troublesome inflammation. Iodides are by no means useless in the treatment of infantile syphilis; with epiphysitis and gummata, which may occur very early in infancy, iodides should be used internally in addition to mercury, and I fancy that in other manifestations of syphilis in infancy iodides may be used sometimes with advantage. The duration of mercurial treatment is a point of much importance. The disappearance of symptoms is, I think, no indication for discontinuing treatment; there are cases in which under mercurial treatment all symptoms disappear in three or four weeks, but if mercury be discontinued so soon, symptoms will almost certainly recur. Treatment with mercury should be continued for at least six months after the disappearance of active symptoms of syphilis and where symptoms tend to recur when treatment is omitted it may be necessary to continue it for a year or more.

ABSTRACT OF

The Fitzpatrick Lectures

FOR **1904.**

Delivered before the Royal College of Physicians of London on Nov. 8th and 10th, 1904.

By JOSEPH FRANK PAYNE, M.D. Oxon.,
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LECTURE II.[1]

Delivered on Nov. 10th.

RICARDUS ANGLICUS AND THE TEACHING OF ANATOMY IN THE MIDDLE AGES.

MR. PRESIDENT AND GENTLEMEN,—We find occurring in the medical history of the thirteenth century and attached to a good many old manuscripts in our libraries the name of one *Ricardus Anglicus*, Richard the Englishman, and are naturally desirous of finding out all that can be known about our countryman and of displaying his work and personality as clearly as we can. But here we encounter the same difficulty as in the case of Gilbert—that is, the ambiguity of a Christian name. We read of *Magister Ricardus, Ricardus*

[1] An abstract of Lecture I. was published in THE LANCET of Nov. 12th, 1904, p. 1327.

Salernitanus, *Ricardus Anglicus*, and *Ricardus Parisiensis*, so that evidently some discrimination is necessary. On investigation it appears that the four Richards are reducible to two persons—an earlier and a later. The earlier, called sometimes Salernitanus, who was in some way connected with the school of Salerno, the Ricardus senior of Gilles de Corbeil, the honoured magister and probably actual teacher of Gilbert, was the writer of numerous medical works (one of them a treatise on anatomy), some of which have been wrongly attributed to Ricardus Anglicus. He was a Frenchman apparently by nationality and a teacher at Montpellier though having had some earlier connexion with Salerno. He must have lived and flourished at the end of the twelfth century though he probably lived on into the thirteenth, but the dates of his birth and death are not known.

The later Richard was our *Ricardus Anglicus*, called also *Parisiensis* because he at one time lived at Paris. As in the case of Gilbert, the name Anglicus implies not only that he was an Englishman but that he lived or was well known abroad. The main outlines of his life are clearly marked out on unquestionable evidence. He was born at Wendover and was known as Richard of Wendover. One would like to adopt and to use this name exclusively, were it not that there was another contemporary Richard of Wendover, Bishop of Rochester. It has been suggested that Richard studied at Oxford but of this there is no evidence. He was a canon of St. Paul's and the official records still show the names of the different prebends that he held successively. His contemporary Matthew Paris, the monk of St. Albans and well-known chronicler, who died only seven years after Richard, gives us further particulars about him. He states that Richard was physician to the Pope Gregory IX. (though when appointed he does not say) and retained his post till the death of the Pontiff in 1241. The Pope was much attached to his physician and on his death-bed gave him a much valued possession, an ivory crucifix containing precious relics. This crucifix Richard bequeathed to the Church of St. Alban, so that Matthew Paris must have been well acquainted with the circumstances. Next, Du Boulay, or Bulæus, the historian of the University of Paris, tells us that Richard of Wendover, canon of St. Paul's, London, the physician, made himself a great reputation among several of his countrymen who were professors at that time. Now "professor" had not then precisely the formal meaning it has now but at all events it meant teacher. Richard died in 1252, as is confirmed by official records. There is nothing doubtful or uncertain about all this. The only point not quite clear is when Richard taught at Paris.

There ought not to be any confusion between the two Richards, and there is not, except as to their writings. Both wrote books, and each of them, as it happens, wrote a book on anatomy and some kind of book called "Practica," besides others, which are assigned generally to Ricardus, with or without the suffix Anglicus. But his name is often applied very loosely and inaccurately, scribes and cataloguers having been accustomed to suppose that any medical work by Ricardus must have had the Englishman for its author.

The MSS. of Ricardus at Paris were carefully examined and read by M. Littré more than 50 years ago. He found that some of these works must have been written in the twelfth century and therefore could not have for their author Richard of Wendover who died in 1252. About others he was uncertain or gave no opinion. But with our present knowledge of the medical literature of those times there can, I think, be little doubt that most of these books had nothing to do with our Richard of Wendover; certainly seven or eight out of ten would be excluded. I have examined by reading as far as possible and by having some copies made several MSS. in the British Museum and the Oxford libraries and have not as yet come upon any MS. which can be certainly referred to Richard of Wendover; all that I have seen are clearly the works of the earlier Richard.

In this difficulty of finding the genuine works of our Richard we receive unexpected aid from Vienna. An able and learned investigator of the history of mediæval anatomy, the Ritter von Töply, lately appointed professor of the history of medicine in the University of Vienna, has published in a beautiful form from a manuscript in the Palatine library a Latin treatise on anatomy which bears the name of Ricardus Anglicus and which he regards as the work of our Richard of Wendover. Now the mere fact that the name Anglicus is inserted upon the MS. is, of course, not enough to establish the authorship beyond question, since we have seen how loosely names are applied, and that this particular name is often given quite erroneously. But Professor von Töply gives corroborative evidence derived from the style and contents of the work which correspond to the time of Richard of Wendover. They will be discussed later; but in anticipation I must say that it appears to be just such anatomical teaching as we should expect to have been given at Paris in the middle of the thirteenth century. It contrasts strongly with the anatomy of the earlier Richard formerly spoken of. There are several MSS. of this in the British Museum and at Oxford, and one of those in London bears the name of *Magister Ricardus Vetulus*, evidently the same as the Ricardus Senior mentioned in my last lecture as spoken of by Gilles de Corbeil and probably the teacher of Gilbert. The contrast of these two works, of different schools and different dates, is very instructive and will be considered in the course of some remarks on the history of anatomical teaching.

We now pass on to some notes on the History of Anatomical Teaching in the Middle Ages. "Teaching" only is regarded and not the history of anatomy which would be far too large a subject. It is proposed to illustrate this by quoting several documents relating to anatomical teaching and then to show the changes which it underwent. In this enumeration reference will be made to the anatomy of the earlier Richard and to the anatomy of Ricardus Anglicus as published by Ritter von Töply, and thus the true character of these treatises will be shown by comparison.

ANATOMICAL TEACHING AMONG THE GREEKS.

In early times anatomy was taught in Greece to the children of "Asclepiad" families, the real or supposed descendants of Asclepios, with whom medicine was a hereditary craft. Afterwards strangers as well as members of the family were taught the craft, and it was then, according to Galen, that books of anatomy were first composed. At a later time anatomy was very systematically studied in the School of Alexandria, being taught by Herophilus, Erasistratus, and others whose works have perished. At one time living persons (criminals under sentence of death) were subjected to dissection but this barbarous practice was given up and dead bodies were dissected. This practice also was afterwards forbidden and in the time of Galen dissection was carried out in Alexandria only on the bodies of brute animals, such as apes and pigs. Galen himself had been taught anatomy when he was young and kept up the study with enthusiasm in mature life. He dissected chiefly apes and recorded his results in several books. These anatomical books were very imperfectly known in the Middle Ages, the only one which was translated into Latin was the treatise "On the Use of Parts," which was intended to show the wisdom of the Creator in adapting all parts of the body to their respective uses. It was rather a treatise on Natural Theology than Anatomy and not intended to teach the science to students. The descriptions of parts are often very vague or even allusive, taking for granted some knowledge. This was the only direct source of Galenic anatomy in the Middle Ages, though anatomists knew something more of the doctrines of Galen and Aristotle through the Arabian books translated into Latin.

Three periods may be recognised in the anatomical teaching of the Middle Ages: 1. The Salernitan Period when anatomy was taught in the school of Salerno by the dissection of pigs. This period goes up to 1200. 2. The Arabist Period, when what was called human anatomy was taught solely by books and lectures without dissection. The basis of teaching was the Arabian anatomical books representing the doctrines of Galen and partly of Aristotle. This period includes, broadly, the thirteenth century. 3. The Period of Human Dissection introduced by Mondino in 1315 and extending up to the time of Vesalius. Each of these periods may be illustrated by selected documents showing the kind of teaching.

FIRST PERIOD.

The first work on anatomy produced in the school of Salerno was the "Anatomy of the Pig" by Copho, junior, written probably at the end of the eleventh century after the introduction of some knowledge of Arabian anatomy by Constantine in the work called Pantegni, a translation of a book by Haly Abbas, an Arabian physician. This tract is a short description of the dissection of a pig, with directions how to find and to display the most important parts. It

contains only two Arabic anatomical terms *zirbus*, the omentum, and *siphac*, the peritoneum. It begins thus:—

Copho on the anatomy of the pig.—"Since the composition of the internal members of the human body was entirely unknown, the ancient physicians, and especially Galen, thought that the parts might be made evident by the anatomy of the internal members of brute animals. And while certain brute animals, as the ape, are found to be like us in the external parts; none of the internal parts are found to be so like as those of the pig and therefore we have decided that anatomy should be studied in them. Now anatomy is correct division and is done thus: You must place the pig on its back, and cut it through the middle of the throat, and then the first thing that comes into view is the tongue, which is attached on the right and on the left to certain nerves which are called those of motion. And these nerves as they come from the brain to the lung, are turned aside to the tongue, and by them the tongue is moved so as to make sounds, &c."

Another anatomical work of the school of Salerno is the *Demonstratio Anatomica* contained in a Salernitan manuscript preserved at Breslau and printed in the Collectio Salernitana of de Renzi. After a general introduction the directions for dissection begin as follows:—"Let a pig be killed, not as some do by piercing the heart with a steel instrument, by which much blood is drawn to the organs of breathing, and they cannot be so well seen, but having cut its throat let it be hung up by its hind feet, with the head hanging down, so that nearly all the blood may flow out. When this is done it must not be taken down [? left] lest, the body becoming cold the channels of the nerves, veins, and arteries should contract and they could not be easily distinguished. Now the opinions of the ancients respecting anatomy were conflicting and diverse. For some say that anatomy was practised on dead animals; but they used to assert, on more mature consideration, that living animals were preferred for dissection and according to Galen, this opinion prevailed, because the movements of particular parts are more clearly seen. But this being done and the pig being placed upon its back, let the lower knee be drawn aside a little from the upper; and then comes into view the tongue, which is the organ of taste and speech, composed of soft flesh and something like a sponge. ..... The tongue in these animals is too long and flabby, and cannot be moved in the upper part for the utterance of *vowels*, though it can be used below for the utterance of *mutes* [consonants] and this is one reason why it [the pig] cannot talk, &c. ..... Then let a small incision be made above the throat and certain muscles are seen which are the means of voluntary motion: and by a similar incision at the side between the skin and flesh certain other muscles are seen by which voluntary movements are effected."

It is impossible to discuss the rest of the "Demonstration" which gives rough but generally intelligible directions for the dissections necessary to exhibit the stomach, intestines, and other abdominal organs, as well as the organs of generation in both sexes, with some account of their structure and remarks upon the uses of each part. The head and the anatomy of the eye are briefly described; it is much more detailed than that of Copho and was evidently written later.

The next document brought forward is a short tract on anatomy called the *Anatomia Magistri Ricardi*. This has already been printed at Berlin, indeed twice. For the reasons, already given there can be no doubt that, as suggested by Ritter von Töply, it was written by the Magister Ricardus who was known to Gilbert at Salerno and whom we place at the end of the twelfth century. Several MSS. of this anatomy contained in the British Museum and the Oxford libraries agree in the main but differ rather considerably in the first part or introduction which is the most interesting portion. This introduction is here given from the MS. which has the fullest text.

Anatomia Magistri Ricardi.—"As Galen affirms in the Tegni whoever wishes to know the arrangement of the internal and external parts of the human body must be well trained in anatomy, wherefore we must consider what anatomy is and why it is so called and in which animals it was the custom to practise it among the ancients, and in which among the moderns and of their [its] kinds and divisions. The word anatomy, as we know from Galen, means right or correct division of the parts and comes from *ana*, meaning correct, and *thomos*, meaning division; hence correct division of the part, that is done in an orderly way. Now it was the custom among the ancients to practise anatomy both on the bodies of the living and on the bodies of the dead. They [the anatomists] went to the Prince and begged for those who were condemned to death. First tying their hands and feet they made their incisions in the organs of the soul [nervous system] as being the most important parts of the body, such as the head, in order to get a complete knowledge of the arrangement of the skull, of the pia mater and the dura mater, and the character of the nerve [nerves?] arising from them. Next they made their incisions into the organs of breathing, in order to get a complete knowledge of the position of the heart, and the entrance of nerves, veins, and arteries. In the same way they went to the organs of nutrition; after this finally they went on to the generative organs, as being less important. This was the way in which it was usual to practise dissection on the bodies of the living." The account goes on to say that the dead bodies were prepared for dissection by maceration in running water, but at the time of the writer dissection was practised quite adequately on the bodies of pigs.

THE SECOND PERIOD: TEACHING OF HUMAN ANATOMY WITHOUT DISSECTION.

For some reason the dissection of pigs seems to have gone out of fashion and for about a hundred years anatomy was taught by lectures and books, on the basis of the Arabian anatomical literature derived from the Greek. The anatomy was much more elaborate than that of the earlier period. The best example of this period is found in the work of *Ricardus Anglicus* as brought to light and published by Ritter von Töply. Though the name alone would not establish the authenticity of the work, the style and doctrines are just what might be expected from a teacher at Paris in the middle of the thirteenth century. It refers to several Arabian writers, Avicenna, Haly, Averroes, and contains many more Arabic anatomical terms than the older book. Also the style is that of the scholastic or dialectical period. The Anatomia begins as follows.

The Anatomy of Richard the Englishman.—"It is necessary for those physicians who are anatomists to know for certain that the human body is constructed to be the support of movements, and of diverse operations, and hence is composed of many and diverse instruments [organs]. To it is joined a 'noble part' pertaining to the soul by which noble powers and many kinds of faculties exercise influence over it, and by the activities of these it is governed and maintained in being, and is preserved from corruption and from a rapid fall [or decay]. But since the activity of no faculty can be fulfilled except by organs fully adapted for the purpose, there is required adaptation and preparation of organs of many shapes to regulate the fabric of the human body, by which the faculties are brought into action and produce the effects which they intend. Wherefore any operation which has not manifold uses is not long preserved nor, indeed, does it come into being." This is only a sample, but gives a fair idea of the book. After Ricardus Anglicus came Henry de Mondeville, another teacher of the same school in anatomy, though he was also a practical surgeon. He lectured on anatomy at Montpellier about 1304. He did not dissect but was the first to use pictures or diagrams as an aid in teaching anatomy and also the model of a skull. Part of his book was translated into English in 1392.

THE THIRD PERIOD OF ANATOMICAL TEACHING (1215 TO 1543): REVIVAL OF HUMAN DISSECTIONS.

A few years after de Mondeville's lecture and the composition of his book on surgery the most important advance in the teaching of anatomy was made by the introduction of demonstration from the dissected subject. The credit of this innovation belongs without doubt to the University of Bologna and the first teacher by actual dissection was Mondino de Luzzi, usually known as *Mundinus de Leutiis* who made his first recorded public demonstration of anatomy in the year 1315 and died in 1326. There is evidence of the human body having been dissected, or at least opened after death (for the distinction between a post-mortem examination and an anatomical dissection was not clearly recognised), at Bologna before 1315, but these dissections had nothing to do with the actual teaching of anatomy to students. Mondino professed to demonstrate from nature the actual structure of the parts, but seems to have been able to see little or nothing more than what was laid down by the Arabian authors as the anatomy of Galen, and therefore recognises some features which belong to the anatomy of brutes and are not strictly human. He left

no figures, but when the art of wood-cutting was introduced in the fifteenth century some rude woodcuts appeared which represent Mondino and his teaching. One shows the professor sitting in a chair while a prosector makes the dissection in which students took no part. Others represent the ideas entertained at the time respecting the anatomy of internal organs but are not actual copies from nature. The most important of the successors of Mondino at Bologna was Jacobus Berengarius Carpus who brought out a new edition of the Anatomy of Mondino with a commentary in 1521 and also a short introduction to anatomy of his own. These works are chiefly remarkable for their illustrations, which were the best anatomical figures published up to that time. His representations of the external anatomy of the muscles are accurate and show artistic feeling. But when he gives a figure of the heart and the aorta it departs widely from the human standard and shows how much even after 200 years of human dissection men were influenced by preconceived ideas.

CLINICAL OBSERVATIONS ON THE ANÆSTHETIC EFFECTS OF METHYL OXIDE, ETHYL CHLORIDE, AND THE SO-CALLED "SOMNOFORM."

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I.—INTRODUCTION.

THE present contribution to the subject of general anæsthesia is the outcome of work upon which I have been intermittently engaged during the past year at St. George's Hospital. The anæsthetics with which it specially deals are (1) methyl oxide or methyl ether; (2) ethyl chloride; and (3) the so-called "somnoform," a commercial preparation which has been extensively advertised, and which it is stated consists of 60 parts of ethyl chloride, 35 parts of methyl chloride, and five parts of ethyl bromide.

I am glad to have this opportunity of expressing my best thanks to those who have so kindly helped me in this investigation. I am specially indebted to Mr. J. Addyman Gardner, F.I.C., lecturer on chemistry at St. George's Hospital, for providing me with sufficient quantities of pure methyl oxide to enable me thoroughly to test the anæsthetic properties of this body. I propose to give below in full Mr. Gardner's remarks on the preparation and chemical properties of methyl oxide. I am also much indebted to Dr. G. A. Buckmaster, Dr. J. Blumfeld, Dr. L. Powell, and Mr. Lawrence Jones for valuable assistance.

Ethyl chloride, "somnoform," and certain other mechanical mixtures similar in type to the last-named preparation having recently proved themselves to be comparatively safe agents for the production of unconsciousness, the question as to the most suitable anæsthetic for brief surgical operations in which complete muscular relaxation is not essential has acquired considerable interest. Before these bodies made their appearance in the field of practical anæsthetics most brief operations were, at all events in this country, performed under nitrous oxide, administered either in its pure state or with air or oxygen. Where it was impossible or impracticable to obtain this anæsthetic a small quantity of chloroform or of the A.C.E. mixture was generally used. But with fresh additions to our resources it is obviously necessary to reconsider the lines upon which we have been proceeding and to decide what places should be assigned to ethyl chloride and its mixtures in the already full list of general anæsthetics. Is it possible completely to replace nitrous oxide by ethyl chloride or one of its mixtures? Can we obtain by means of these portable and readily vaporisable agents results as good as those obtainable with the less portable, but well tried, laughing gas? At the present moment both ethyl chloride and "somnoform" are being very largely, perhaps too largely, used, not only in dental, throat, and nose operations, but in minor surgery generally. Those of us who are specially identified with this department of practice are constantly being asked whether these agents are safe and trustworthy; whether ethyl chloride produces better results than "somnoform," or "somnoform" better results than ethyl chloride; whether they are suitable for this or that case; whether this or that inhaler is the best, and so forth. The fact is that the circulation throughout the profession of misleading pamphlets and advertisements has had a somewhat confusing effect.

Directly it became clear that we had in ethyl chloride a not unpleasant, a rapidly acting, and an exceedingly portable and a comparatively safe anæsthetic, a widespread movement in favour of the new drug and of mixtures, the action of which depended chiefly upon the ethyl chloride they contained, began to manifest itself. In hospital practice, and especially in dental and throat operations, there was something to be said in favour of ethyl chloride as opposed to nitrous oxide. Certainly from some points of view the anæsthesia obtained by the former agent was of a better type than that obtained by the latter. In dental surgery, for example, the available anæsthesia period, after a full dose of ethyl chloride, was distinctly longer than that from nitrous oxide. Moreover, the great portability of the ethyl chloride tubes was a distinct advantage, especially in country practice, whilst the apparatus required and the method of administration were as simple as could well be wished. As regards the safety of ethyl chloride as a general anæsthetic—that is to say, its death-rate when administered in varying circumstances—this was an unknown quantity. It seemed, however, clear that, as compared to other anæsthetics, it was when administered pure comparatively safe. When mixed with ethyl bromide, as in "somnoform," an additional risk of no small proportions was incurred. Two fatal cases have to my knowledge taken place in connexion with "somnoform" and although I have employed this mixture with the object of testing its effects I am not disposed, after the results to be described below, to use it again in practice.

The cases to which I shall refer are 50 in all, a number which at first sight may appear to be too small to entitle one to draw any useful conclusions. But as I have in each of these cases taken great care not only as regards the anæsthetic or mixture actually administered, but as regards recording the phenomena observed and subsequently analysing and classifying these phenomena, I feel that the material I have obtained is sufficient for the purpose. Experience has convinced me that our knowledge concerning any particular anæsthetic or method of administration is more likely to be increased by carefully conducting and recording a few cases than by anæsthetising a large number of patients without attention to detail. In each of these 50 cases a certain "method of administration" was employed, by which I mean a plan or procedure capable of being described in so many words and repeated in subsequent cases—not a haphazard administration which cannot be faithfully reproduced. In each case a definite percentage or a definite quantity of the anæsthetic was taken; the temperature of the room and the barometric pressure were, when necessary, recorded; the patient was examined; a note as to food, &c., was made; the clothing was loosened; and a metronome, placed in the care of an assistant, was adjusted to ring every three seconds during the administration and operation periods. When everything was in readiness the administration was begun, one assistant counting aloud the bells of the metronome, whilst another recorded in a specially ruled book the effects which I described from time to time. In each case a mouth-prop was inserted the patient was instructed to breathe through the mouth and a dental operation was performed. In addition to the records made during the inhalation and operation periods notes were also made as to the after-effects, the patient's sensations and opinions, and other points. I give one of the 50 cases in full in order that a correct idea may be obtained as to the plan of note-taking.

CASE 46. JULY 4TH, 1904. 1 P.M.

Weather.—Fine and warm.

Name.—R. D., aged 32 years.

Description.—Short and fair; good heart sounds and chest expansion.

Diet.—Tea only at 8 A.M.

Method.—5 cubic centimetres of ethyl chloride ("Kelene") to 3000 cubic centimetres of air, administered as described in method 5, Table II.

Operation.—Three teeth extracted.

Operator.—Mr. Mummery.

Metronome Set to Ring every Three Seconds.

Inhalation period.		Available anæsthesia period.	
Bells.	Symptoms.	Bells.	Symptoms.
1		1	
2		2	
3	Ethyl chloride being tilted into bag.	3	
4		4	No reflex movement.
5		5	
6		6	One tooth out.
7		7	
8		8	Perfectly tranquil.
9	Good regular breathing.	9	Second tooth out, slight movement.
10		10	
11		11	Third tooth out.
12		12	Hand moved up.
13	Shuts eyes when asked.		
14	Perfectly tranquil.		
15			
16	Does not open eyes when asked.		
17	Breathing quicker and deeper.		
18			
19			
20			
21			
22	Tendency to retch.		
23			
24	Snoring.		
25			
26	Slight clonus.		
27	Administration discontinued.		

Inhalation = 81 seconds.
Available anæsthesia = 36 seconds.
General result: Arbitrary numerical value = 3.

Remarks.—No phonation throughout. Immediate recovery rather tardy with slight distress. Five minutes after rather distressed, slight nausea, dazed. ? too much ethyl chloride for a small patient. Excellent result except as regards recovery.

I may point out that the absence of any note against the numbers in the inhalation or operation periods indicates that there was nothing at the moment to record. Thus in Case 46 the 1, 2, 5, 6, &c., indicate that when these bells of the metronome rang the patient was quite quiet and that there was nothing to record. The same remark applies to 1, 2, 3, &c., in the operation period.

Whenever a patient had to return on a subsequent occasion for a further operation and when such a course could be followed without in any way prejudicing the patient's interests, a different anæsthetic or a different method of administering the same anæsthetic was chosen. In this way valuable information was obtained. Indeed, it may, I think, be accepted as a fact that, given the same patient, the same preparations as to diet, &c., the same anæsthetic, the same method and length of administration, and the same atmospheric conditions the same result will, with the rarest exceptions, be obtained. I say with the rarest exceptions because I do not deny the possibility of the patient's mental state, which obviously may be widely different on different occasions, influencing the result. But it is a mistake to regard this psychical factor as the most common cause of differences displayed by patients when anæsthetised on different occasions under apparently identical conditions. A careful investigation of these conditions will generally lead to the detection amongst them of one or more which were not precisely the same on the two occasions. For example, a heavy meal before the first administration, an empty stomach on the occasion of the second, absolute coaptation of the face-piece at the first administration, slight want of this coaptation at the second; oral breathing on the first occasion, nasal breathing on the second; these or similar differences are, as a rule, amongst the true causes of differences in results. In previous investigations I have taken every opportunity of anæsthetising the same patient on different occasions and have almost invariably found that provided every minute detail has been attended to in order to make the conditions identical similar results have been obtained, whereas, if some slight modification has been inadvertently or purposely introduced into the administration I have obtained results which differed in certain respects from those formerly observed and noted. I therefore did my best in this investigation to obtain as many of these "multiple administration" cases as possible and was very fortunate; in fact, there was one patient whom I anæsthetised on no less than five separate occasions, administering a different anæsthetic or employing a different method on each occasion. These multiple administration cases will be discussed in a special section below.

With the object of facilitating the comparison of my 50 cases one with another I have devised a system by which each case has received an arbitrary numerical value indicating the kind of general result which was obtained. If, as in this series of cases, a certain degree of anæsthesia be induced, the anæsthetic be then withdrawn, a certain operation be performed and full and careful notes be taken on the lines above mentioned it will be found possible by the simple process of appraising the symptoms of the patient during the inhalation, operation, and recovery periods, to put a kind of value upon each case as a whole. In this way one may compare one anæsthetic with another anæsthetic, the method remaining the same; or one may compare one method of administering a particular anæsthetic with another method of administering the same anæsthetic. In either case, as I have already mentioned, the comparison is of the greatest clinical value when the patient remains the same. Working on these lines I have appraised the symptoms of each of my 50 cases and have thus been able to give to each case an arbitrary numerical value (A.N.V.) according to the following scheme:—

Ideal, or excellent, arbitrary numerical value (A.N.V.)	...	...	= 5
Good	,,	...	= 4
Fair or moderate (i.e., neither good nor bad)	,,	...	= 3
Unsatisfactory or bad	,,	...	= 2
Very bad (or failure)	,,	...	= 1

2. METHYL OXIDE OR METHYL ETHER.

I have on more than one occasion during the past ten years endeavoured to obtain sufficient quantities of this substance to enable me to test its anæsthetic properties. It was not until a few months ago, however, that I was successful. I had always been much impressed by the statements made by the late Sir B. W. Richardson concerning his experiments with methyl oxide dissolved in ordinary ether and, I intended when an opportunity should present itself to investigate the effects of the pure substance. As far back as 1868[1] we find accounts of Richardson's experiments with methyl oxide dissolved in ether to saturation. He does not seem to have studied the anæsthetic properties of the pure gas—in fact, not only in his experiments upon lower animals but in his administrations to the human subject varying and unknown proportions of ethylic ether vapour must have been inhaled with the methyl oxide. So far as I can ascertain no researches have been conducted with methyl oxide itself.

The following short account of the chemical properties of methyl oxide has been kindly furnished by Mr. Gardner:—

Methyl oxide, or methyl ether, $\begin{matrix}CH_3\\CH_3\end{matrix}\!\!>O$, is the lowest member of the homologous series, of which ethyl ether is the best known representative, and bears the same relation to methyl alcohol that ethyl ether does to ethyl alcohol.

$CH_3—O—H.$ $\qquad$ $CH_3—O—CH_3.$
$C_2H_5—O—H.$ $\qquad$ $C_2H_5—O—C_2H_5.$

Just as in the case of methyl chloride, methyl alcohol, formic acid, &c., methyl ether shows a somewhat greater divergence in both chemical and physical properties from ethyl ether than is shown between succeeding members of the homologous series. Methyl ether is a gas of specific gravity 1·617 (referred to air). The liquefied substance boils at −23·65° C. at standard pressure, and, according to Regnault, the vapour pressure at the temperatures specified has the following values:—

−30° C.	576·54 millimetres.
−20° C.	872·00 ,,
−10° C.	1306·63 ,,
0° C.	1879·02 ,,
+10° C.	2628·97 ,,
+20° C.	3586·01 ,,
+30° C.	4777·99 ,,

The gas can therefore readily be condensed to the liquid state by pressure at ordinary temperatures. The heat of combustion (for one molecule) at constant pressure is 344·2 calories, from which, according to Berthelot, the heat of formation from amorphous charcoal is 56·8 calories. Methyl ether is somewhat soluble in water, one volume of which at 18° C. dissolves 37 volumes of the gas. It combines readily with hydrogen chloride gas, forming a compound boiling at 2° C., and, according to Friedel, possessing the formula $(CH_3)_2O.HCl$. It probably

[1] See Medical Times and Gazette, May 30th, 1868, p. 581. See also Medical Times and Gazette, June 6th, 1868, p. 609; Asclepiad, vol. ii., p. 270; and Asclepiad, vol. iv., p. 135.

forms a similar compound with concentrated sulphuric acid, one volume of which dissolves 600 volumes of the methyl ether with considerable evolution of heat. This compound is unstable and is decomposed by water with the liberation of methyl ether.

In order to obtain the substance in quantities sufficient for these experiments the method of Erlenmeyer and Kriechbaumer (Berichte der Deutschen Chimischen Gesellschaft, 7, 699) was at first adopted. 1·3 parts of dry pure methyl alcohol were gradually mixed with two parts of concentrated sulphuric acid and placed in a flask of three litres capacity fitted with a thermometer and a reversed condenser. The flask was placed on a tripod and gauze and gently heated by means of a rose burner. The gas evolution commenced between 90° and 100° C. and as the experiment proceeded the temperature of the liquid gradually rose but was not allowed to rise above 140° C. By regulating the temperature a steady evolution of methyl ether was easily attained. When the gas evolution slackened the liquid was allowed to cool and a further quantity (0·4 part) of methyl alcohol was added and the heating continued as before.

After leaving the condenser the gas was purified by passing through a flask containing pumice and concentrated potash solution and finally through two large bottles filled with granulated soda-lime. The gas thus obtained, which had a pleasant ethereal smell, was absorbed in a litre of pure concentrated sulphuric acid contained in a vessel cooled by ice water. The gas was very rapidly absorbed with a considerable heat evolution. The liquid eventually obtained was deep brown in colour and nearly double the bulk of the original acid. The gas was recovered for use by dropping the sulphuric solution into an equal bulk of water. This method of storing the gas did not, however, prove very satisfactory, as a considerable amount of decomposition took place on treating with water, tarry matter being produced and the gas was contaminated with sulphur dioxide. Furthermore, after purification by passing through potash and soda-lime, the methyl ether had not quite such a pleasant smell as before the absorption by sulphuric acid and had a slightly more irritant action when inhaled.

Ultimately it was found best to dispense with the absorption by sulphuric acid and the methyl ether, after purification by passing through potash and soda-lime, was collected in a large rubber bag, from which it was pumped by means of a small motor pump into an iron cylinder of the kind used for storing nitrous oxide. By not pushing the action in the heating flask too far and keeping the temperature *below* 140° a very pure gas could easily be obtained. It was not found necessary to use *pure* methyl alcohol. Rectified methyl alcohol dried over lime proved quite satisfactory.

Having thus obtained by the kindness of Mr. Gardner sufficient quantities of liquefied methyl oxide I prepared in a large rubber bag a mixture containing 10 per cent. of the anæsthetic gas and 90 per cent. of air. Although the smell of pure methyl oxide as it issues from the retort of the chemical laboratory is distinctly fruity and pleasant, reminding one somewhat of amyl nitrite, it has little or no odour when greatly diluted with air. This 10 per cent. mixture, in fact, was in taste and smell not unlike nitrous oxide gas. Two hours after a light luncheon I took one full inspiration of this 10 per cent. mixture through an ordinary valved stopcock, the corresponding expiration escaping. No cough was excited, no general effect followed, and there was no headache or discomfort after. I next tried two full breaths with identical results. My pulse immediately after was 82 and quite regular. I then took four full inspirations of the mixture, all expirations escaping as before, and beyond a slight feeling of flushing of the face no effects followed. Six full inspirations were next taken and produced a slight feeling of warmth in the epigastric region but no further effects, from which I argued that the mixture was too weak to be of any use. I therefore prepared a 20 per cent. mixture and proceeded as before. The taste was not particularly pleasant, being rather acrid. One full inspiration produced no effect. I next took three full inspirations. About 40 seconds after the third inspiration I experienced a drowsy feeling but no other sensation. I next took five full breaths with practically the same result. Beyond the fact that two minutes later I found a difficulty in expressing myself accurately no effects were noticed. I therefore prepared a 30 per cent. mixture of which I took three full breaths. This mixture seemed rather pungent and induced two coughs. Beyond feeling a glow over my body about three minutes later no effects were produced. I therefore took six full breaths of this 30 per cent. mixture and found, for the first time, that a distinct effect was produced. The general sensations were almost identical with those obtainable by nitrous oxide, except that the taste was not so agreeable. (I may here say that this particular methyl oxide had been obtained from its solution in strong sulphuric acid and I think there may have been slight impurities in it.) I did not completely lose consciousness, but I passed into a drowsy state in which I had to exert self-control to prevent myself behaving irrationally. Having often inhaled nitrous oxide in similarly increasing quantities I felt certain that this 30 per cent. mixture would, if pushed a little further, destroy consciousness. Five minutes after the inhalation of these six full breaths I experienced an unpleasant after-taste and some headache.

On a subsequent occasion I inhaled a mixture of methyl oxide and air containing about 33⅓ per cent. of methyl oxide which had been prepared by the direct method—i.e., it had not been passed into sulphuric acid and liberated. The mixture was certainly more pleasant than that previously respired but one full breath was somewhat pungent and induced a cough. I therefore diluted the mixture till it contained only about 20 per cent. of methyl oxide and then inhaled 12 consecutive breaths. A pleasant sensation resulted; I experienced a warmth about the face and lips but consciousness was unimpaired. It seemed that mixtures, sufficiently dilute to be pleasant were not capable of rapidly destroying consciousness, whilst those which were rich enough in methyl oxide quickly to render one unconscious had the disadvantage of being pungent. I therefore determined to try in a few clinical cases a fairly strong mixture and to prevent the pungency of such a vapour by admitting it gradually. Thus in Case 13 (the first in Table I.) a 1 in 2 mixture of methyl oxide and air was employed, the administration being conducted as described in the table (Method 1). No cough was induced; there was no resistance, excitement, or struggling; the breathing was fairly regular; there was occasional swallowing; the pulse was good and regular, being 116 to the minute 42 seconds after commencing the inhalation; the pupils were somewhat dilated; the colour was unaltered; consciousness was lost in about 144 seconds; there were very slight reflex movement and phonation when the operation began. The inhalation lasted 201 seconds and the available anæsthesia 78 seconds. The patient said she "felt she could not breathe" during the induction; her condition afterwards was somewhat unusual. There was a sudden awakening whilst in the chair, but she remained dazed, sleepy, and depressed for about 20 minutes after. She complained of pain over and below the cardiac region, of a feeling of faintness, and of inability to walk. Ten minutes after the operation there was some general tremor; there were also some headache and slight nausea but no vomiting. The pulse and colour remained good. In the next case (No. 14) the same method was employed, but a 50 per cent. mixture was used. The breathing at first was good and regular; there was no excitement; the pupils were dilated; at the end of a minute there were some swallowing and holding of the breath; the colour was good; and consciousness persisted till nearly the end of the administration, which lasted 153 seconds. There was much reflex movement during the operation; the anæsthesia, which was of a light form, lasted about 51 seconds; and giddiness was experienced afterwards. In Case 15 the same method was employed. Cough occurred during the induction, with slight phonation and movement of arms. During the operation there were more movement and considerable phonation. The administration lasted 117 seconds and the anæsthesia 30 seconds. There was nausea after. In Case 16 to-and-fro breathing took place throughout with the result that consciousness was lost much earlier—in about 63 seconds. There was no resistance, excitement, or cough. After 99 seconds' inhalation the pulse was 136. The arms became relaxed. The administration lasted 141 seconds; the anæsthesia 18 seconds. During the operation loud phonation and much movement occurred. There were no after-effects. In Case 17 the same method was followed with an interesting result, the patient remaining conscious—that is to say, responding to remarks—throughout the inhalation and operation periods. Typical analgesia was, in fact, obtained. The induction was uneventful, lasting 207 seconds. At the end of 87 seconds the pulse was 144. There were no reflex phenomena during the operation. There were no after effects. In Case 18 a somewhat different method (see Table) was followed, but with no great improvement in results. During the induction the breathing was regular and slight phonation and movement were recorded. The inhalation lasted 87 seconds. The anæsthesia obtained was of a good type, being deeper than any yet produced with this anæsthetic. It was characterised by slight reflex movement and lasted 36 seconds. There was some distress, with groaning and crying afterwards. As regards the general results in these six methyl oxide cases the arbitrary numerical values were respectively 2, 3, 2, 1, 4, and 2, giving an average of only 2·3.

3. Ethyl Chloride.

In Table II. will be found records of 25 cases in which ethyl chloride was administered. Being unaware of any records as to the effects produced in the human subject by different percentage mixtures of ethyl chloride and air I first prepared certain of such mixtures and administered them as one is in the habit of administering nitrous oxide

TABLE I.—GIVING PARTICULARS OF CASES IN WHICH METHYL OXIDE WAS USED.

No. of case in note-book.	Sex.	Age.	Description and diet.	Methods of administration.	Inhalation.	Available anæsthesia.	Phenomena: remarks.	Numerical value.
					Seconds	Seconds		
13	F.	23	Tall; thin; pale; boiled egg, tea, and bread-and-butter 3 hours before.	*Method 1.*—About 39,000 c.c. of a 1 in 2 mixture of methyl oxide and air in a bag (= about 33·3 per cent. of methyl oxide); inhaler with inspiratory and expiratory valves; air-slot gradually closed so that some air gained admission with mixture for 39 seconds; the pure mixture then breathed.	201	78	Slight movement; slight phonation; swallowing; headache and nausea after; considerable distress after; unpleasant induction.	2
14	F.	26	Good heart sounds; not nervous; average build; tea and bread-and-butter 4½ hours before.	Same method, but about 26,000 c.c. of a 50 per cent. mixture taken; administration as above, except that air-slot closed in 72 seconds.	153	51	Much movement; swallowing; giddiness after.	3
15	F.	25	Anæmic; under treatment for dyspepsia; not nervous; good, regular, heart sounds; bread-and-milk 5 hours before.	Ditto, but air-slot closed in 97 seconds.	117	30	Moderate movement; moderate phonation; nausea after.	2
16	F	19	Average patient; large tonsils; tea and bread-and-butter 4½ hours previously; two sandwiches just before administration.	*Method 2.*—About 26,000 c.c. of a 50 per cent. mixture of methyl oxide and air taken; to-and-fro-breathing from the beginning; air-slot gradually closed; completely closed in 51 seconds.	141	18	Much movement; loud phonation.	1
17	F.	34	Rapid heart action; tea and bread-and-butter 4½ hours previously.	Ditto, but air-slot closed in 72 seconds.	207	15 (analgesia)	Swallowing.	4
18	F.	18	Tea, bread-and-butter, and egg, 4½ hours previously.	*Method 3.*—About 26,000 c.c. of a 50 per cent. mixture taken; inhaler with two valves; air-slot gradually closed, valves acting; at end of 60 seconds air-slot shut and pure mixture breathed, expirations still escaping; then valves thrown out of action and remainder of mixture breathed backwards and forwards.	87	36	Moderate movement; moderate phonation; "distress" after.	2

or nitrous oxide and oxygen. As will be seen, these cases, as a whole, were not very satisfactory. In Case 2 (the first in the table) a 9·3 per cent. mixture was used. Consciousness was lost in about 84 seconds. The administration was continued till the mixture was exhausted (147 seconds) and was characterised by peculiar apnœic pauses, shallow breathing, and swallowing movements. It seemed as though some peripheral or other stimulus—e.g., greater oxygen restriction—were needed to make the respiratory centre work as well as it generally does with other anæsthetics. The patient became relaxed; there was moderate reflex movement during the operation without phonation. The available anæsthesia lasted 66 seconds. There were no after-effects. The general result was good (A.N.V. = 4). In Case 3 (the second case in the table) the same percentage mixture was employed and with very similar results. All the mixture was administered; apnœic pauses again manifested themselves, and the anæsthesia produced was of a comparatively light type, there being considerable movement during the operation. It is interesting to note, in these as in most ethyl chloride cases, that there was little or no reflex phonation, although the anæsthesia was not deep. With nitrous oxide anæsthesia of a similar depth reflex phonation would probably have occurred. In this case consciousness was lost in about 60 seconds and it is recorded that during the administration the pulse was good, about 100, and the colour was unaltered. Unlike Case 2, there was muscular rigidity and not relaxation. The arbitrary numerical value of the case was 3. In Case 1 (the third case in the table) a higher percentage of ethyl chloride—11·9 per cent.—was employed, with the result that consciousness was lost more quickly—i.e., in 33 seconds; that anæsthesia came about more quickly—i.e., in 132 seconds; and that the available anæsthesia, which was of a deeper type, lasted 66 seconds. There were, however, retching and vomiting afterwards, so that the general result was unsatisfactory (A.N.V. = 2). Apnœic pauses were also observed in this case and the muscular system became relaxed. In Case 11, the next case in the table, the percentage of ethyl chloride was practically the same, and much the same results were obtained (A.N.V. = 2). Although there were only four cases in which Method 1 was employed results were sufficiently unsatisfactory to condemn the method, the average numerical value being only 2·7 of a possible 5. I next tried a plan by which to-and-fro breathing took place towards the end of the administration, hoping to avoid by the retention of CO_2 the apnœic pauses of Method 1. In Case 4 the arbitrary numerical value was 4, but in Case 5—that of a girl, aged 16 years—a very bad result was recorded, giving a numerical value of only 1. It seemed probable in Case 5 that the excitement which occurred had its origin in the unpleasant suffocative sensations afterwards described by the patient. I therefore determined in the next series of cases to allow some air to obtain access with the first inhalations of a definite mixture. This was done in Case 6, but the result was only moderately good (A.N.V. = 3). In Case 7 a high-percentage mixture was used, but a numerical value of only 2 is attached to the case. In Case 22 there was so much struggling that the method may be said to have practically failed, the numerical value being but 1. In Cases 23 and 24 the results were also unsatisfactory, 3 and 2 being the numerical values respectively ascribed. In nearly all the cases of this method swallowing and shallow breathing again characterised the administration period. The average numerical value of the five cases of Method 3 is very low—viz., 2·2.

The foregoing cases seemed to indicate that whatever method might eventually prove to be the best for the administration of ethyl chloride, the continuous inhalation, without re-breathing, of mixtures of this anæsthetic and atmospheric air produced results which were by no means satisfactory. At the same time the effects obtained by percentage mixtures were not without interest. The next step was to obtain records of administrations in which the re-breathing factor was allowed to exert its influence. I therefore next subjected to this system of note-taking a case in which five cubic centimetres of ethyl chloride were administered from a Clover's ether reservoir to which was attached a bag containing 10,000 cubic centimetres of air, the expirations being at first allowed to escape but being retained during the second half of the administration (Table II., Case 8, Method 4). As will be seen from the table a better general result (A.N.V. = 4) was obtained. By this plan it was possible to increase the strength of vapour so gradually that there was little or no discomfort to the patient. The apparatus, however, was unnecessarily cumbrous and complex and I therefore decided to endeavour to obtain similarly good results by simpler methods. I accordingly conducted 13 administrations by the simple plan of taking 3000 cubic centimetres of air and gradually diffusing into it

TABLE II.—GIVING PARTICULARS OF CASES IN WHICH ETHYL CHLORIDE WAS USED.

No. of case in note-book.	Sex.	Age.	Description and diet.	Methods of administration.	Inhalation.	Available anæsthesia.	Phenomena: remarks.	Numerical value.
					Seconds	Seconds		
2	F.	26	Thin; average height; rapid cardiac action; egg, &c., 3¼ hours previously.	*Method 1.*—A mixture of ethyl chloride and air administered by inhaler with inspiratory and expiratory valves, each expiration escaping; 17,904 c.c. of a 9·3 per cent. mixture taken (5 c.c. of ethyl chloride to 16,250 c.c. of air).	147	66	Swallowing movements; moderate reflex movement during operation.	4
3	F.	—	Good heart sounds; no food for 5 hours.	Ditto.	168	39	Considerable reflex movement; phonation at 39 seconds of available anæsthesia period; giddy after.	3
1	F.	18	Looks a good subject; average height and build; no food for 5 hours.	Ditto. 27,758 c.c. of an 11·9 per cent. mixture taken (10 c.c. of ethyl chloride to 24,450 c.c. of air).	132	66	Unpleasant sensations during induction; retching and vomiting after.	2
11 (See also Case 10.)	F.	—	Tall; pale; not nervous; no food for 4 hours.	Ditto. 27,770 c.c. of a 12 per cent. mixture taken (10 c.c. of ethyl chloride to 24,450 c.c. of air).	105	51	Headache and violent retching after.	2
4	F.	28	Average build; suckling; rather anæmic; egg and tea 3 hours before.	*Method 2.*—A definite quantity of a definite mixture placed in bag; about one-half breathed as in Method 1; the remainder breathed backwards and forwards, the expirations thus being retained. 16,642 c.c. of a 9·8 per cent. mixture taken (5 c.c. of ethyl chloride to 15,000 c.c. of air).	117	39	Moderate reflex movement; slight phonation.	4
5	F.	16	Healthy looking; average size for age; no food for 5 hours.	Ditto. 11,642 c.c. of a 14·1 per cent. mixture taken (5 c.c. of ethyl chloride to 10,000 c.c. of air).	87	39	Unpleasant sensations during induction; much excitement; much movement; considerable headache and nausea after.	1
6	F.	25	Well-nourished; average height and build; no food for 5½ hours.	*Method 3.*—A definite quantity of a definite mixture placed in a bag; some air permitted to gain access with first few inspirations of mixture, all expirations escaping; the pure mixture then inhaled, expirations still escaping; finally the remainder backwards and forwards. 11,620 c.c. of a 13·9 per cent. mixture taken (5 c.c. of ethyl chloride to 10,000 c.c. of air).	126	45	Slight excitement; moderate movement; slight phonation; slight headache.	3
7	F.	22	Rather badly developed; good heart sounds.	Ditto. 13,240 c.c. of a 24·4 per cent. mixture taken (10 c.c. of ethyl chloride to 10,000 c.c. of air).	96	36	Induction unpleasant; moderate movement; loud phonation.	2
22	F.	18	Heavily built girl; anæmic; good heart sounds; tea 5 hours before.	Ditto. 15,677 c.c. of a 10·7 per cent. mixture taken (5 c.c. of ethyl chloride to 14·000 c.c. of air).	165	—	A failure. So much struggling when face-piece removed that more ethyl chloride had to be given.	1
23	F.	—	Thin; average height; rather anæmic; quick heart action; tea and bread-and-butter 5 hours before.	Ditto. Same mixture.	180	36	Moderate movement; swallowing; slight nausea after; pleasant induction.	3
24	F.	16	Good heart sounds; not markedly nervous; food 3 hours before.	Ditto. 15,871 c.c. of a 10·5 per cent. mixture taken (5 c.c. of ethyl chloride to 14,200 c.c. of air).	180	27	Loud phonation; swallowing; vomiting after.	2
8	F.	17	Aspect of congenital syphilis.	*Method 4.*—5 c.c. of ethyl chloride in a wide-bore Clover's inhaler; 10,000 c.c. of air in bag attached thereto; indicator at "0," then gradually turned to "3"; expirations at first allowed to escape, then, when bag about half empty, to-and-fro breathing.	138	39	Slight movement; slight headache after.	4
25	F.	35	Good heart sounds; tea and bread-and-butter 3½ hours previously.	*Method 5.*—3000 c.c. of air in rubber bag; 5 c.c. of ethyl chloride in glass tube attached to lower part of bag; administration begun by to-and-fro breathing of air in bag; ethyl chloride gradually tilted into bag and mixed with air; to-and-fro breathing throughout.	90	66	Slight movement.	5
26 (See also 16 and 28.)	F.	19	Large tonsils; average; tea and bread-and-butter about 5 hours before.	Ditto.	72	About 45	Moderate movement at 30 seconds in operation period.	5
29 (See also 35, 38, 44, and 47.)	F.	35	Stout; florid; not nervous.	Ditto.	75	51	Slight movement.	5
30 (See also 34.)	F.	19	Dark; tall; thin; not nervous; tea and bread-and-butter 3½ hours before.	Ditto.	84	45	Moderate phonation.	4
31	F.	14	Small; dark; thin; anæmic; nervous; a mouth breather; tea and bread-and-dripping 4 hours before.	Ditto.	?	? 39	Vomiting and depression after.	2

TABLE II.—GIVING PARTICULARS OF CASES IN WHICH ETHYL CHLORIDE WAS USED—(*Continued*).

No. of case in note-book.	Sex.	Age.	Description and diet.	Methods of administration.	Inhalation.	Available anæsthesia.	Phenomena: remarks.	Numerical value.
					Seconds	Seconds		
33	F.	29	Probably an alcoholic; tea and egg 4½ hours before; some whisky since.	*Method 5.*—3000 c.c. of air in rubber bag; 5 c.c. of ethyl chloride in glass tube attached to lower part of bag; administration begun by to-and-fro breathing of air in bag; ethyl chloride gradually tilted into bag and mixed with air; to-and-fro breathing throughout.	90	42	Some excitement; moderate movement; loud phonation.	2
36	F.	20	Average; tea only 4 hours before.	Ditto.	78	60	Some "distress" after.	3
46	F.	32	Short; fair; tea only 5 hours before.	Ditto.	81	36	Moderate movement; giddiness, slight nausea, and slight "distress" after.	3
50 (See also 48.)	F.	46	Bread-and-butter and cocoa 4½ hours before.	Ditto.	75	66	*Nil.*	5
40	F.	20	Bread-and-butter and tea 5½ hours before; nothing since.	Ditto, except that 4 c.c. of ethyl chloride used.	70	54	Slight phonation; slight nausea and giddiness after.	3
32	F.	14	Bread-and-butter, ham, tongue, and tea 2½ hours before.	Ditto, except that 3 c.c. of ethyl chloride used.	114	39	*Nil.*	5
37	M.	14	Anæmic; badly developed.	Ditto.	99	30	Slight movement; loud phonation.	3
39 (See also 43.)	F.	13	Very nervous child. Tea and bread-and-butter 4½ hours before.	Ditto.	93	27	Much movement; loud phonation.	1

FIG. 1.

a measured quantity of ethyl chloride. The accompanying figure shows the arrangement of apparatus. By means of a hand-bellows (A) of known capacity 3000 cubic centimetres of air are pumped into the bag (B), the lower stop-cock of which is then turned off. Five cubic centimetres of ethyl chloride are now placed in the graduated glass tube (C) and the bellows having been detached from the lower stop-cock of the bag this tube with its ethyl chloride is attached to the stop-cock. The face-piece having been accurately adjusted the patient breathes air backwards and forwards through the air-slot of the upper stopcock which contains no valves. The stopcock is now turned on and to-and-fro breathing takes place into the bag. The tube with its charge of ethyl chloride is then gradually tilted and the anæsthetic enters the bag, being gradually diffused into the air therein. There is no cough, holding the breath, or resistance and anæsthesia is rapidly induced. In Cases 25, 26, 29, 30, 31, 33, 36, 43, and 50, five cubic centimetres of ethyl chloride were thus gradually added to 3000 cubic centimetres of air, and much better results than those hitherto obtained at once manifested themselves, the average numerical value of these nine cases, in fact, being 3·8. In the remaining four of the ethyl chloride cases rather less than 5 cubic centimetres of the anæsthetic were used and with one exception, that of a child, 13 years old, good results followed, the average numerical value of these four cases being 3·0. The shallow breathing, apnœic pauses, and unpleasant after-effects which had characterised the uniform percentage cases now failed to manifest themselves, although a good type of anæsthesia was produced. Moreover, this new method of administration had a much shorter inhalation period, as will be seen from the figures of the table. As regards the available anæsthesia in the 13 cases of Method 5, the average works out at about 46 seconds. The weak point in ethyl chloride anæsthesia is undoubtedly its tendency to be followed by unpleasant after-effects and this is exemplified in these cases of Method 5 as well as in cases of preceding methods. In connexion with this method it may be pointed out that the face-piece, stopcock, and bag can readily be washed in hot water or, if preferred, in some antiseptic solution, such as 1 in 60 carbolic lotion, between each case—a procedure which is essential in all methods involving re-breathing.

(To be continued.)

HOSPITAL SATURDAY AT TAUNTON.—As a result of the recent Hospital Saturday collections in Taunton the sum of £80 has been handed over to the medical charities of the town.

HUNTERIAN SOCIETY.—The first Hunterian Society's lecture of the session was delivered on Nov. 9th by Dr. J. Rose Bradford, F.R.S., who took for his subject the Treatment of Bright's Disease, the President, Dr. F. J. Smith, being in the chair. At the close of the lecture a vote of thanks to Dr. Bradford was, on the proposition of the President, carried by acclamation.

NON-FATAL RUPTURE OF AORTIC ANEURYSM.

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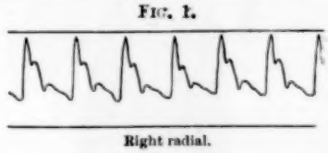
IT has generally been considered that free rupture of an aortic aneurysm must necessarily be rapidly fatal within a period of a few minutes, but a small number of cases have now been recorded in which life has been maintained for several weeks, months, or even years after such rupture has occurred, and to this small number of cases I wish to add the one given in fuller detail below. The cases in question have been those in which there has been distinct rupture of the wall of the sac with extensive hæmorrhage either into the œsophagus, or air passages, or into one of the cavities of the body, as the pleura or pericardium, and the character of the hæmorrhage has been such as to prove that the sac has given way freely and has not been that of a mere leakage through a minute opening such as may not uncommonly occur for some days or even weeks before a fatal rupture takes place.

Ferry[1] in recording recently a case of this nature gives short *résumés* of eight other cases which he has been able to gather from medical literature. His own case had had profuse hæmoptysis two years before death and at the necropsy there were found, besides the evidence of recent rupture into the lung, distinct old scars in the aneurysmal sac which apparently represented the healed site of the previous rupture. The eight other cases to which he refers lived varying periods from three days to ten months after the occurrence of symptoms suggestive of rupture. He states further that a number of cases are recorded where patients lived a few hours or perhaps a day or two after rupture of an aneurysm into the lungs, pleural cavity, or pericardial sac, but considers that these fall into a different category from those which he records, in which there was practically for the time being recovery from the rupture. And, of course, the number of cases in which slight leakages take place from quite minute apertures in the aneurysmal wall for variable periods before the termination of the disease is very considerable. There are, however, several cases which are not included in the list that Ferry has collected which Gairdner[2] has made mention of in his "Clinical Medicine." One of these was that of the celebrated surgeon Liston, a more complete account of whose case is given in THE LANCET of Dec. 11th, 1847, p. 633. Here a considerable hæmorrhage, suggestive of free rupture of the aneurysmal sac, was succeeded by a period of quiescence and death occurred five months later, not from hæmorrhage, however, though there had been slight discharges of blood in the interval. The trachea was found to be perforated in three or four places and portions of the aneurysmal clot were discovered projecting through the openings partially blocking them up and so preventing further severe hæmorrhage. In a second case that had been under Gairdner's own care the patient had a very large sudden gush of blood, sufficient to cause syncope, nearly five years before death, and this was repeated an hour or two later. He recovered from the hæmorrhage, however, and improved so as to be able to take moderate outdoor exercise, occasionally bringing up more or less tinged expectoration, a minute patency of the aperture in the sac being apparently left after the first big hæmorrhage. He died finally after bringing up quite a small amount, from eight to ten ounces, of blood. Another case referred to by Gairdner was communicated to Syme[3] by Ramsay in which there was rupture of an aortic aneurysm externally opposite the cartilage of the third rib. The patient lost a large amount of blood until he fainted, then the bleeding stopped and he lived afterwards for four months without any new bleeding and died in the end not from the aneurysm but from "typhus fever."

The following case came under my care when resident medical officer at the Manchester Royal Infirmary some years ago. An outdoor labourer, aged 56 years, was admitted under the care of the late Professor Leech on June 7th, 1899. He was admitted with the history of having brought up a large amount of blood whilst at his work, an amount estimated by a mate as "a bucketful," which is plainly above the mark, but it was evidently very large. He was in a state of collapse, barely conscious, almost pulseless, and absolutely blanched; the surface of the body was cold and covered with clammy sweat. The pulse, such as it was, was weak, rapid, and "slapping," and the respirations were hurried and shallow. He appeared to be moribund, but as the hæmorrhage had ceased saline infusion was resorted to, two pints being introduced into his median basilic vein. The infusion had an immediate effect, he rapidly rallied and improved much in his general condition. A history was then obtained from him that he had had cough for eight months, sufficiently severe for him to go to see his medical adviser on four occasions, and he had been given medicine for it though no physical examination of his chest had been made. For the last few years he had noticed at intervals a stabbing pain in the chest, reaching from the right shoulder to the ensiform cartilage, which came on whilst at work and only ceased after he had rested for a while. He continued at work, however, although he began to spit blood during the three weeks before admission. The more extensive rupture occurred indeed whilst he was at work. He was exerting himself discharging a barrowful of bricks when he felt a "catching" at his chest and had the sudden and very severe attack of hæmorrhage for which he was taken to the hospital. There was little of note in his previous history. He had been accustomed to take a fair amount of beer; there was no history of syphilis obtainable but one of heavy work as a general outdoor labourer.

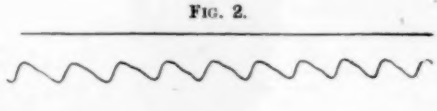
His general condition became very comfortable after the saline infusion and continued so for three weeks. The heart was somewhat hypertrophied, the impulse being in the sixth left space, just outside the nipple line. There was dulness in the second left interspace, just outside the edge of the sternum, but no pulsation was felt over the area nor were there any abnormal auscultatory signs either there or elsewhere over the chest. There were tracheal tugging and inequality of the pupils. The pulses were markedly unequal; indeed, on the day of admission the left radial pulse could not be felt but after he had been inside for a few days it was plainly recognisable. The right pulse was of a "water-hammer" type. The characters of the two pulses are well seen in the accompanying sphygmograms. The carotid

FIG. 1.



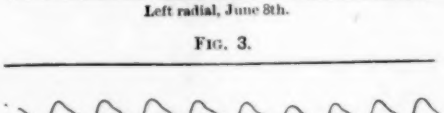
Right radial.

FIG. 2.



Left radial, June 8th.

FIG. 3.



Left radial, June 15th.

pulses appeared equal. The improvement was maintained for nearly three weeks and then, on June 26th, he had a severe hæmorrhage in the early morning. He was much prostrated but rallied, and on the 28th he had further hæmorrhage and saline infusion was again resorted to. The bleeding recurred, however, about one and a half hours later and this proved fatal.

At the necropsy the aorta was found to be extensively atheromatous, with some thickening and obstruction, though not complete occlusion, of the orifices of the coronary arteries. The saccular aneurysm arose from the convexity of the arch

[1] N. S. Ferry: American Journal of the Medical Sciences, July, 1904.
[2] W. T. Gairdner: Clinical Medicine, Edinburgh, 1862, pp. 509 et seq.
[3] Monthly Journal of Medical Science, vol. x., p. 89.

immediately beyond the left carotid and was of about the size of a large hen's egg. The subclavian artery came off from the upper and outer part of the sac, which was almost filled with firm laminated clot. Posteriorly the aneurysm had extended and insinuated itself between the trachea and the œsophagus. The trachea had been pressed upon, its wall thinned out, and its mucous membrane softened, and in this softened area there was a vertical slit about three-eighths of an inch in length, with rounded, softened edges, through which the bleeding had occurred.

The case calls for but few further remarks. As in the other cases recorded, the stoppage of the hæmorrhage after free rupture had occurred must be attributed to the considerable amount of clot contained in the sac, a portion of which had, no doubt, been carried across the rupture so as effectively to plug it and to stop further bleeding, for the time being at any rate. The value of the saline infusion was very plainly evident; the condition of the patient visibly improved from minute to minute whilst it was in progress. It should certainly in no instance be neglected in cases of severe hæmorrhage, at any rate when the hæmorrhage has ceased, or even if it has not. I can recall a number of cases in which patients with apparently only a few minutes to live after severe hæmorrhage have rapidly "come to life" again as the result of prompt saline infusion and in some with permanent recovery. It is advisable, therefore, that the apparatus for it should always be ready at hand and the very simple technique always at one's fingers' ends.

Manchester.

ON THE ACTION OF PERCHLORIDE OF IRON IN BLOOD POISONING AND OTHER DISORDERS.

BY P. W. LATHAM, M.D. CANTAB., F.R.C.P. LOND.,
DOWNING PROFESSOR OF MEDICINE IN THE UNIVERSITY OF CAMBRIDGE (1874-94); CONSULTING PHYSICIAN TO ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

IN an article of mine on the Treatment of Anæmia or Chlorosis which appeared in the *Practitioner* for 1897, p. 352, the following remarks occur:—

> It has often been a matter for consideration with me why the tincture of the perchloride of iron sometimes acts so beneficially in certain forms of erysipelas and scarlet fever and as a local application in cases of diphtheria. The explanation appears to be in the fact that it contains not only iron and hydrochloric acid, but also free chlorine; and, as Professor Binz [1] has pointed out, to demonstrate this it is only necessary to add a drop of the tincture or of the officinal solution of the perchloride of iron to a solution of potassium iodide mixed with mucilage of starch, when it immediately produces a deep blue colour, owing to the evolution of iodine, precisely as if pure chlorine water had been added. Tincture of guaiacum also acquires a blue colour on the addition of a drop of the solution owing to the liberation of nascent oxygen by the free chlorine.

The beneficial result which immediately followed the administration of the tincture of the perchloride of iron in the case so graphically described by Sir Isambard Owen [2] was, I venture to suggest, due to the presence of free chlorine in the mixture, aided possibly by the three grains of quinine which accompanied each dose. Various observers have from time to time called attention to the beneficial action of the perchloride of iron in different forms of blood poisoning. As Sir Dyce Duckworth has pointed out, Mr. G. Hamilton Bell in 1851 was the first to do so with regard to its action in erysipelas. Mr. Bell [3] states that he had made use of it for upwards of 25 years without having, in a single instance, failed of success; giving in mild cases fifteen drops of the tincture every two hours, in severer cases 25 drops "persevered in night and day however high the fever and delirium." These statements were confirmed by his brother Dr. C. Bell,[4] who states that "it is a remarkable circumstance in the exhibition of this valuable remedy in the erysipelatous diatheses that, although given in much larger and more frequently repeated doses than have been recommended in our dispensatories, it never produces headache, and when this symptom is present it quickly relieves it: at the same time it reduces and regulates the pulse: thus showing that in this state of the system it has a soothing and sedative as well as an alterative effect." He administered the remedy in doses of 25 minims every two or three hours. Dr. G. W. Balfour [5] also regarded this preparation "as a certain and unfailing remedy": a few doses, he says, of 20 minims "suffice to remove the pain and lessen the heart's action; it never produced headache or other unpleasant symptom, and was continued with advantage through the highest delirium; its curative action seems, as G. Hamilton Bell supposes, to be exerted on the capillary vessels." Mr. J. Hawkes,[6] who administered the remedy in one drachm doses three times a day, endorses the views of the above-mentioned observers.

In scarlet fever beneficial effects of the remedy have been reported by Dr. H. S. Byrd of America and by Mr. Meade of Bradford, both influenced by the analogy which to them appeared to exist between this disorder and erysipelas. Dr. Byrd prescribed the remedy in small doses of three or four drops every four hours. He was so satisfied with the results that he "would not exchange it for all the other remedies which he had before used in scarlet fever."

My own experience of the remedy in these disorders makes me hesitate to prescribe it with the boldness of some of the authorities above referred to—at all events, for any lengthened period. Large doses not infrequently increase the fever and set up intestinal irritation, palpitation, and headache. "Every physician is acquainted with the symptoms that arise when large doses of iron have been taken for some time. Irritation of the abdominal organs, which evidently begins in the intestine, is set up and may extend to the peritoneum and be accompanied with the usual symptoms—pain, discomfort, a tendency to vomit, diarrhœa or constipation, and general exhaustion, the last, however, not being apparently dependent upon the condition of the abdominal organs. These symptoms may persist for some days even when the iron is immediately discontinued and may then gradually subside." [7] Moreover, if, as I maintain, the beneficial effects of the remedy are largely due to the free chlorine it contains heroic doses are not called for. The most judicious plan is to give moderate doses, such as were administered in the case recorded by Sir Isambard Owen, every six hours, cautiously watching their effect and administering them more frequently if the patient will bear them; if not, to keep to moderate doses and, if further antiseptic action is required, to effect this by the internal administration of chlorine water or euchlorine alternately with, or in the intervals between, the doses of iron. In this way the irritation which may arise from large doses of the latter remedy may be avoided.

Various writers in the past century have testified to the efficacy of chlorine water in scarlet fever and other forms of fever, specially in those of a low type. Braithwaite was the first to use it internally and held it to be as truly a specific for scarlet fever as mercury for syphilis or quinine for ague. Sir Thomas Watson [8] calls attention to the high praise bestowed upon this remedy by Messrs. Taynton and Williams in the treatment of scarlet fever. Under their care was a schoolboy suffering from scarlet fever "who was most dangerously ill. The skin was covered with an eruption of a dusky hue; the nostrils excoriated by the acrimony of the discharge; the greatest difficulty in swallowing anything; low delirium with a very rapid pulse; in short, every symptom of approaching dissolution. In this state he began to take the chlorine in the evening, one drachm in half a pint of distilled water. The nurse was directed to give him as much as she could prevail on him to swallow. On visiting him the following morning there was evident amendment and in 24 hours he appeared out of danger. Encouraged by this favourable case we gave it to patients of all ages; and we can most solemnly declare that it proved successful in almost every case in which we were called in time and in which the medicine was faithfully administered." [9]

In the *Edinburgh Medical Journal*, vol. xvii., p. 514, 1872, Dr. W. G. Balfour states that Dr. Matthew Gairdner of Crieff was the first to administer chlorine in diphtheria and with marked advantage. Dr. Balfour further states that, "whatever be the theory of the action of chlorine in cases of diphtheria, I have not found it fail in the treatment of this disease when faithfully given since Dr. Gairdner

[1] Lectures on Pharmacology, vol. ii., p. 46, Sydenham Society's translation.
[2] THE LANCET, Oct. 15th, 1904, p. 1079.
[3] Monthly Journal of Medical Science, 1851, vol. xii., p. 497.
[4] Ibid., p. 502.
[5] Monthly Journal of Medical Science, vol. xvi., 1853, p. 423.
[6] THE LANCET, Feb. 9th, 1856, p. 151.
[7] Binz, loc. cit., vol. ii., pp. 49-50.
[8] Practice of Physic, fourth edition, vol. ii., p. 910.
[9] Medical Gazette, 1829, vol. iv., p. 432.

called my attention to it." The chlorine water was prepared as follows: "Put eight grains of chlorate of potassa in a strong pint bottle and add a drachm of strong hydrochloric acid, close the mouth of the bottle whilst the violent agitation lasts, then add water ounce by ounce with constant agitation until the bottle is full. An adult may use the whole pint in a day." Sir Thomas Watson[10] adds: "The chlorate should be pulverised, and in cold weather the bottle should first be warmed." The amount of potassium chlorate might, I think, be increased with advantage. I would suggest that instead of eight grains 20 grains of the powdered chlorate should be used with one drachm of strong hydrochloric acid and water added as above directed to 20 ounces. Peroxide of chlorine and chlorine are contained in the solution. The following expresses the reaction:—

$$4\,KClO_3 + 12\,HCl = 3\,ClO_2 + Cl_2 + 4\,KCl + 6\,H_2O.$$

We have sufficient evidence, then, that in various forms of blood poisoning chlorine and the tincture of the perchloride of iron may act beneficially. The question remains whether these remedies should be employed independently of Roux's or other serum or in conjunction with it and in the latter case at what stages should one or both be administered. This can only be answered by the results of further observations.

Cambridge.

A CASE OF ENCEPHALITIS CEREBELLI.

BY FREDERICK TAYLOR, M.D. LOND., F.R.C.P. LOND.,
SENIOR PHYSICIAN TO GUY'S HOSPITAL AND CONSULTING PHYSICIAN TO THE EVELINA HOSPITAL FOR SICK CHILDREN.

AT the meeting of the Clinical Society of London on Oct. 28th Dr. F. E. Batten showed a child suffering from encephalitis cerebelli and I took the opportunity of briefly mentioning a similar case which was under my care many years ago.[1] I was, however, speaking only from memory as I could not lay my hands upon the notes. Since then, however, I have not only found the notes but I have also seen the patient. At the time of the record the conceptions of encephalitis were different from what they are now and the diagnosis lay rather between an infantile disseminated sclerosis and a cerebellar tumour than with any recoverable inflammatory lesion. When improvement slowly occurred the possibility of a tuberculous tumour, calcifying and shrinking, was entertained. But for some time now I have satisfied myself that it conforms to the cases recognised as acute encephalitis and I take the present opportunity of publishing it. If the records are not in every way complete it at least shows these important features; tremor and ataxia of cerebellar type, nystagmus, absence of optic neuritis, a possible origin in an infectious disease—namely, whooping-cough—and recovery after a duration of certainly more than three and a half years. The importance of this last fact was admitted by Dr. Batten in relation to the prognosis of such cases when seen early.

The patient, a boy aged four years, was admitted under my care into the Evelina Hospital for Sick Children on June 17th, 1875. The family history was good except that two children had died from fits under 12 months of age and there was no history of syphilis or rheumatism. He had whooping-cough about three weeks previously and had had no other illness. Six weeks previously he fell down three stairs but did not seem to be much hurt and did not to the mother's knowledge strike his head. Three weeks previously it was noticed that his eyes began to twitch and then his hands and afterwards his feet. Then he began to drop things out of his hands and he had since been unable to walk. For the last four days he had vomited after food, but there had been no constipation and the bowels had been opened regularly. He had always had difficulty in holding his urine and this was worse lately. The description given on June 19th was to the effect that he could not speak plainly. He could not stand by himself and if he was assisted to walk his legs were dragged; when sitting up he was unsteady, bending slightly forwards and then recovering himself. He could pick up a pin with his fingers. There was lateral nystagmus occasionally. The chief characteristic of the case was the trembling of the limbs and trunk, which had a close resemblance to that of disseminated sclerosis, so much so that I asked the late Dr. Moxon to see the patient, but he would not allow that he was suffering from that disease, preferring to believe that the symptoms were due to a cerebellar lesion. The limbs were quiet as he lay passively on his back, and only trembled to any considerable extent when he sat up or lifted his arm to take hold of any object. Even then the movements were not violent, they were quick and short but not extensive. Nystagmus was often present. His eyes were often examined with the ophthalmoscope but no change in the fundus was ever seen. During the fortnight after his admission he was several times sick but the vomiting ceased after June 30th. During the next two months there was very little change: he was drowsy sometimes in July; in August he seemed to be gaining power over his legs; and on his leaving the hospital on Sept. 8th he was said to be better than before. He was treated with potassium iodide in five-grain doses twice daily. In the summer of 1876 I ascertained by inquiries at his home that he had been for some little time in the country and that generally he was much improved in strength though still suffering from the trembling movements.

On Feb. 3rd, 1877, I again called at his mother's residence and made the following notes. He had been home then since August last year. He had grown taller since leaving the hospital, was rather thinner, less childish in the face, with darker and less curly hair. He was fairly intelligent-looking. As I reached the house he was being helped along by his sister. He seemed at first to have very little use in his legs and she helped him on to the door-step. However, on level ground he could get along, but in a highly ataxic manner. His movements were precisely those of a drunken man. He did not waddle or throw out his legs with the usual ataxia of tabes dorsalis but having placed one foot on the ground he could not balance himself sufficiently long on it to put the other in the right place; thus for a few steps he would plunge headlong forwards only just saving himself from a fall, then he would pull up and steady himself; another moment and he was again staggering forwards, frequently crossing one leg in front of the other. He appeared to have good strength in his legs, for he was lively and active, and while I was there was constantly dashing out of the room, into the opposite room, or along the passage. He seemed in constant danger of falling and had one fall while I was there. The arms were also ataxic; on attempting to take hold of any object or write with a pencil the hand was tremulous and rather jerking in its movements. Tremor of the head and neck was scarcely noticeable and I omitted unfortunately to observe whether he had any nystagmus. His sensation was apparently normal and he was a lively, cheerful boy. They said he knew his letters but had got no further in his education. His speech was hesitating and the voice was not properly modulated; what he said was mostly intelligible, but articulation was not so distinct as it should be in one of his age, and some utterances in answer to a question of mine were altogether unmeaning. He obviously saw and heard quite well and the mother did not know of his having any other complaint. He was under no treatment.

On Nov. 27th, 1878, in answer to inquiries, his mother wrote that "he has wonderfully improved in the last 12 months; his speech is a little imperfect and there is at times a wildness in his eyes but his general health is very good and he is able to run and bowl a hoop. We have had no medical advice for him since he left the hospital." I have no further note of him though I believe I heard again after some months that he was quite well. However, I actually saw him a fortnight ago, on Nov. 4th. He is 33 years of age, is a clerk, having business in London and residing at six miles distance. He remembers little of his illness but thinks he was quite well about the age of eight or nine years. He presents no signs of his former complaint; muscular power, gait, knee-jerks, and optic discs are all normal; he is an active man and includes hockey among his recreations.

Wimpole-street, W.

[10] Loc. cit.
[1] THE LANCET, Nov. 5th, 1904, p. 1285.

NEW MORTUARY FOR STONEHOUSE.—At the meeting of the Stonehouse (Plymouth) urban district council held on Nov. 8th it was decided to apply to the Local Government Board for permission to borrow £1000 for the provision of a new mortuary and disinfecting chamber.

HILL DIARRHŒA IN THE PLAINS.

BY P. A. NIGHTINGALE, M.D. EDIN.,
LATE PHYSICIAN, BRITISH LEGATION AND ROYAL PALACE, BANGKOK.

ONE of the commonest ailments to which a newcomer to Bangkok (Siam) is subject is early morning diarrhœa, which runs a course identical with the hill diarrhœa described by Manson and Crombie. Now Bangkok is the centre of a large rice district and is only a few inches above high-water mark, especially during the wet season when the river is in flood. These cases of diarrhœa occur for the most part during the rains, are more common in the new than in the old resident, and in males than in females. The Siamese themselves are not subject to attacks. The only special point of interest to note here is that in the older residents the possibility of a commencing sprue should be carefully borne in mind, the copious, frothy, pale, and evil-smelling stools of both bearing a close resemblance to each other.

The history of the majority of the cases was the same. After perspiring very freely all day the patient would go to bed soon after ten o'clock when the temperature was about 83° F. (moist heat), putting on a cholera belt and ordinary pyjamas or native silk garment. Tossing about the bed the cholera belt would ruck up and the patient eventually goes to sleep, still perspiring freely, with his liver and abdomen entirely unguarded. At about 3.30 A.M. the temperature would fall to 75° F. and at the same time a slight breeze would spring up which, striking on the patient, would stop the perspiration, produce a slight chill, and eventually wake him up. He would then cover himself up with the rug which was at the foot of the bed, though the mischief was already done. The first attack of diarrhœa would probably begin about 6 A.M.

One case under my care was particularly instructive. It was that of a European nurse who within the first few months of her arrival had several attacks of early morning diarrhœa. About the tenth month another attack set in, and two months later a very acute and severe case of sprue, with vomiting, was easily diagnosed, necessitating her return home as soon as she was fit to travel.

In addition to the usual diet and treatment I found salol, papain, and a mustard plaster to the liver of considerable value, always regarding the affection as primarily due to hepatic disturbance. With regard to the prophylaxis I was in the habit of laying stress upon the following: flannel pyjamas or Chinese trousers to be worn at night, a proper native sleeping mat to be placed over the sheet, a blanket to cover the feet, and two large "Dutch wives" (a kind of bolster some six feet long) for the patient to lie between. This "Dutch wife," well known in Java, the Malay Peninsula, and Siam, I am inclined to think of the utmost value, for not only is it a cooling and comfortable arrangement to sleep with but acts as an excellent cover to the abdomen against the early morning breeze, and when there is one on either side the whole trunk is guarded in a way that is most complete and valuable. A study of the sleeping compartments of well-to-do Malays, Siamese, and Chinese brings these "Dutch wives" into great prominence, so that they might perhaps be introduced with benefit into those other tropical climates where hill or early morning diarrhœa is common and where their use is not known or fully appreciated from a prophylactic point of view.

The points which I should like to emphasise are that, in my opinion, (1) "early morning diarrhœa" is a better name than "hill diarrhœa," since out of India the disease is commonly met with on the plains; (2) a chill to the liver is the sole origin of a very large number of attacks; (3) it bears a close resemblance to the early stages of sprue and not infrequently develops or lapses into it; and (4) the "Dutch wife" is a more valuable guard to the abdomen at night than a cholera belt.

Note.—It is of some interest to note that Mr. Ralph Paget, C.M.G., has just been appointed His Majesty's envoy extraordinary and minister plenipotentiary at Bangkok. From a medical point of view alone the choice is a wise one, as Mr. Paget has had considerable tropical experience, including a two years' previous residence in Siam, and so will not be so liable to suffer from the effects of the climate as several of his predecessors have done.

Hertford-street, Mayfair, W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL INFIRMARY, EDINBURGH.

A CASE OF DOUBLE STENOSIS OF THE AORTIC ORIFICE.

(Under the care of Dr. ANDREW SMART.)

FOR the notes of the case we are indebted to Dr. H. N. Fletcher, resident physician, and Dr. J. M. Beattie, assistant pathologist.

The patient, a girl, aged 17 years, was admitted into the Royal Infirmary, Edinburgh, on June 6th, 1904, complaining of shortness of breath and severe palpitation. She was not troubled with any illness up to the age of 15 years, except measles when a child. She had for some years felt a giddiness on rising from a chair but it was not until she started work in a laundry two years previously that there was any symptom which caused her inconvenience. Her new work consisted largely in carrying heavy parcels and baskets and she soon began to complain of shortness of breath on exertion. There were no other symptoms till three months before admission, when the breathlessness became much worse and she had severe palpitations. A constant dry cough began to trouble her soon after. Four days before admission she fainted at a dance and on the night before admission she fainted again when out for a walk. This attack was accompanied by severe dyspnœa, palpitation, and cough. She vomited brandy which was given her. The sputum was tinged with blood and she was unable to lie down because of the dyspnœa. There was no previous history of rheumatism in any form.

On admission the patient was pale, with a slight pink malar flush; the breathing was rapid and laboured; the alæ nasi were distended and working. The sclerotics were pale. There was no œdema of the feet or elsewhere on the surface of the body. There was no clubbing of the fingers. The pulse was 120, very feeble, and without much character, wavy, and of low tension; it was almost obliterated on raising the arm. The temperature was 98·6° F. There was slight venous pulsation in the neck. The external jugular was not distended. The apex beat of the heart was feeble and somewhat far out and down. On auscultation a loud rough and prolonged diastolic murmur was heard all over the heart and over the root of the neck. This was most intense at the inner end of the third left costal cartilage and down the sternum. This murmur was the only sound heard in the aortic, pulmonary, and tricuspid areas. On getting towards the mitral area the first sound began to be heard and at the apex was clear and followed by a short systolic murmur, not propagated into the axilla, and quickly replaced by the loud diastolic murmur. The right border of the heart was not beyond the right sternal border. There were harsh breath sounds all over the lungs with numerous crepitations at the bases. No albumin was present in the urine.

The patient slept well on the night of admission. The temperature rose on the second night to 99·8° but after that it remained normal. She was kept in bed, put on a light dry diet, and given five minims of strophanthus three times a day, and was dry-cupped several times over the lungs. This helped the symptoms a good deal. After a week when the pulse had much improved in force, but still remained fast, she was given five minims of tincture of strophanthus and five minims of tincture of digitalis alternately every six hours. Œdema of the lungs at the end of this week had almost disappeared and the cough and dyspnœa were greatly improved. On June 19th (13 days after admission), at 5.30 P.M., sudden acute heart failure came on. Her face was pale and the lips and ears were cyanosed. She was in great distress with extreme dyspnœa, was retching but bringing nothing up, and the pulse was hardly to be felt. The lungs, which had been clear in the morning, were full of moist sounds. Strophanthin, strychnine, ether, and

whisky were successively tried, but with only slight temporary relief, and she died at 6.20, about one hour after the onset of the attack.

Necropsy.—The following is the report of the post-mortem examination. There was a mass of dense, fibrous adhesions between the pericardium and the epicardium. On the surface of the left ventricle, about half an inch from the apex, this mass occupied an area half an inch in diameter. There were also some old fibrous adhesions in the region of the great vessels. There were no recent pericarditis and no special thickening of the epicardium apart from the areas already noted. The right auricle was slightly dilated and the wall was slightly hypertrophied. The appendix was elongated. The tricuspid orifice measured 30 millimetres in diameter and the segments showed a slight amount of diffuse thickening. The right ventricle was dilated and its wall was hypertrophied, measuring from four to five millimetres near the apex. The pulmonary artery was narrow at its orifice, measuring 16 millimetres and the valve segments were smaller than normal but showed no degenerative changes. The left auricle was hypertrophied. The mitral orifice measured 24 millimetres in diameter; the segments were very slightly thickened and especially so at their free margins. The left auricular appendix was elongated, measuring 5·5 centimetres. The left ventricle was elongated, the cavity measuring 8·4 centimetres from the attached part of the aortic segments to the apex of the heart. The wall was hypertrophied, measuring from 25 millimetres to nine millimetres at the apex. The aortic valve segments were very much thickened, especially the posterior, which was also retracted. The thickening in the right anterior cusp was largely confined to its right half and that part of the cusp was considerably retracted. The thickening of the left anterior was most marked in its right half and here there had been ulceration and perforation of the cusp. The perforation was surrounded by recent vegetations. The aortic orifice was stenosed and measured at the upper limit of the cusps eight millimetres. Immediately above the posterior cusp there was a mass of vegetations on the wall of the aorta. Beneath these there was ulceration of the wall and a small aneurysm about five millimetres in circumference and two millimetres in depth, was bulging towards the left auricle. About five millimetres below the base of the posterior aortic cusp there was a thickened calcareous ring, at parts fully three millimetres in thickness, extending from the base of the left anterior cusp, across the ventricular surface of the anterior mitral segment, and back to the starting point. This ring caused a stenosis below the aortic segments and measured six millimetres in its greatest diameter. (See figure.) The aorta and the coronary arteries

View of aortic orifice, showing posterior aortic cusp and thickened calcareous ring.

were practically healthy. The muscle of the left ventricle was very firm and there was very marked yellowish mottling under the endocardium.

Microscopical examination.—Under the microscope the heart muscle showed an advancing myocarditis. In certain irregular areas the muscle tissue had been destroyed and replaced by fibrous tissue. This fibrous tissue was fairly cellular in character. The cells were mainly of the small mononucleated type, resembling in their characters the lymphocytes. They could be seen at places becoming flattened, the nucleus becoming elongated, and apparently forming fibroblasts. There were very few polymorphonuclear leucocytes. The vessels were distended. No areas of hæmorrhage could be found. At places there were remains of the muscle fibres in these fibrous areas. The nuclei of the degenerated muscle fibres were swollen and the chromatin showed in many parts a karyorhexis. The striation of the muscle fibres even in these degenerated areas was still apparent and there was at places well-marked fatty degeneration. This degeneration was scattered very irregularly and was not at all abundant. Bacteriological examination showed in the vegetations numerous staphylococci and streptococci, but no organisms could be detected in the heart wall.

Remarks by Dr. FLETCHER and Dr. BEATTIE.—The chief point of interest in this case is the condition of subvalvular stenosis. We have not been able to find any record of an exactly similar condition. Sclerosis and calcification without involvement of the valves and giving rise to stenosis have been described, though the condition is apparently very rare. There seems to us no doubt that the condition must have been due to an endocarditis. The aortic valves were probably first involved and the inflammatory or degenerative process had afterwards spread so as to involve the anterior mitral segment and the wall of the ventricle. The great fibrous thickening and the calcareous deposit all indicate that the condition must have been of considerable standing and apparently it was also of slow development. There were no symptoms which caused any inconvenience till two years before admission and then only slight breathlessness on exertion. Three months before admission these symptoms became worse and the patient began to complain of severe palpitation. These symptoms might quite well be explained by the gradually increasing degenerative changes in the myocardium, changes which were apparently due to a malnutrition of the heart muscle from a deficient blood-supply. The fibrous tissue which in places almost replaced the heart muscle was fairly cellular and indicates quite definitely a progressive change of comparatively short duration. About this time, also, the heart was beginning to fail, as evidenced by pulmonary complications. The sudden fainting before admission was probably due to the giving way of the damaged valve. This destruction of the valve was no doubt due to the septic endocarditis, which was of a subacute nature and which had not given rise to any elevation of temperature or other toxic symptoms. There was no history of acute rheumatism and the organisms found at the necropsy were staphylococci and the streptococcus pyogenes. The whole case suggests a slowly developing degenerative change rather than an acute process with secondary degeneration. The presence of fairly recent vegetations with bacteria does not in any way invalidate this view. There was a gradual failure in the circulatory apparatus for three months; the vitality of the patient was considerably lowered and in consequence she was more susceptible to the invasion by organisms of any damaged area. We have no doubt that the vegetations were produced in this way and were not a part of the primary process.

We have to express our indebtedness to Dr. Andrew Smart, senior physician to the Royal Infirmary, under whose care the patient was, for permission to publish the case.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Nov. 14th, Mr. JOHN LANGTON, the President, being in the chair.

Mr. E. MUIRHEAD LITTLE exhibited a case of Traumatic Displacement of the Lower Epiphysis of the Femur Backwards. The patient was a youth, aged 17 years, who presented himself for treatment at the National Orthopædic Hospital on May 11th, 1904, complaining of his right knee. Six weeks before he was knocked off his bicycle and fell, violently striking his right knee on the ground. Skiagrams showed that there was fracture of the epiphysis of the femur backwards. An operation was performed and the femur was

fractured at the junction of the middle with the lower third. The leg was then straightened and now only half-an-inch shortening had resulted. The patient had made a very good recovery. According to most authorities displacement of this epiphysis backwards was far less common than the forward displacement and therefore it seemed worth while to place the case on record. The amount of disability involved did not seem enough to justify so serious an operation as incision and forcible detachment of the epiphysis with chisel or osteotomy followed by attempts at reduction. Although the result of treatment adopted in this case was satisfactory Mr. Little thought that in the future he would prefer to perform osteotomy of the lower end of the shaft rather than produce a fracture higher up, as in the present case.—The PRESIDENT had seen five or six similar cases and in all of them the epiphysis had been displaced backwards. The fracture was commonest in persons under 20 years of age. One case had been complicated by gangrene from pressure on the vessels.

Mr. F. C. WALLIS showed two cases of Chronic Osteitis in girls, aged 16 and 18 years respectively. Both patients had been under his observation for some years and had been operated upon on more than one occasion. They both came with a painful swelling on the tibia, which was tender on pressure and ached at night. They were otherwise healthy girls and there was no history of tubercle, injury, or of any evidence of syphilis. Relief was obtained for a considerable time by gouging a channel through the thickened bone and going down to the medullary cavity, but in one case it had been necessary to repeat the operation more than once on account of a return of pain. Mr. Wallis remarked that he had had in all five cases of this kind under his care, some for several years. All the patients were girls and in each case one bone alone was affected—namely, the tibia. The patients were quite healthy girls in every other respect. A bacteriological cultivation of some of the bone removed from one of the cases produced staphylococcus albus and this appeared to be the cause of the chronic osteitis in these patients. These cases, though in a mild form, belonged to the same category as the more serious cases of acute infective osteo-myelitis. The operation in these patients had relieved tension and therefore relieved pain, but all the infected bone could not be removed and the question was whether some much more extensive operation was worth considering.—The PRESIDENT referred to a case resembling those before the society in a woman whose femur was affected. The disease was most chronic and intractable but ultimately an operation gave relief.—Dr. C. W. BUCKLEY (Buxton) had seen a case in which the fibula was involved.—Mr. H. J. WARING also referred to a similar case which afterwards turned out to be tuberculous.

Dr. F. PARKES WEBER exhibited a case of Tremor of the Left Lower Extremity of ten years' duration. The patient, a woman, aged 30 years, had always when awake more or less tremor of the left foot increased by excitement or fatigue. The tremors tended to spread to the other extremities. The illness commenced at the end of 1894 (several months after influenza) with attacks of giddiness, trembling (especially of the left side), and palpitation. Dr. Weber first saw her at the German Hospital in October, 1895. There were certain symptoms of Graves's disease and of disseminated sclerosis but the case was probably functional. She had improved rather than become worse in the course of ten years.—Dr. J. S. RISIEN RUSSELL remarked on the diagnosis between disseminated sclerosis and functional tremor. He agreed with Dr. Weber in the opinion that the case was one of functional tremor.

Dr. WEBER also exhibited a case which was probably one of Early Acromegaly with General Overgrowth of the Skeleton. The patient, aged 25 years, was a tall man, with big hands and feet and rather a prominent lower jaw. He had slight pulmonary tuberculosis. About five years ago he had an epileptiform convulsion and since then he had suffered from headaches (worse at night) and had had occasional fits. His intelligence was somewhat below the average. He presented none of the ocular symptoms connected with acromegaly. The history as to the growth of the head in recent years was uncertain.

Dr. F. J. POYNTON and Mr. ERNEST A. PARSONS exhibited a case of Amaurotic Family Idiocy (Waren Tay's disease). The patient was a child, aged 13 months, of Jewish parentage. Of the four other children of the same parents two had died from croup and two were healthy. The labour in this case was instrumental. At the age of six months the infant was noticed to have some little difficulty in swallowing and the vision seemed to be imperfect. The limbs did not grow and the general health was poor. At the present time the feet, hands, and limbs were curiously small; the child could not sit up, the neck muscles were weak, the legs were cold and blue, and the feet were extended. The tendon reflexes were increased. Ophthalmoscopic examination showed optic atrophy and a cherry-red spot in a pale area at the position of each macula lutea. Mr. Parsons added that he had lately obtained the brain and cord of a fatal case in which he had found very marked changes in the ganglion cells and in the Nissl's granules; around the macula in the fundi oculorum was a cystic condition.—Dr. RUSSELL had found in fatal cases intense degeneration throughout the pyramidal system commencing in the motor cells.

Dr. H. MORLEY FLETCHER exhibited a case of Multiple Syphilitic Disease of Joints. The patient was a girl, 15 years of age, who was the subject of syphilitic keratitis. The liver and spleen were also enlarged. There had been no rashes or signs of hereditary syphilis prior to the age of seven years. At eight years of age swelling of the joints was first noticed, the earliest affected being the ankles. All the larger joints were symmetrically affected and showed thickening and a varying degree of limitation of movement. At present both knee-joints contained a considerable quantity of fluid. The thickening about the joints appeared to be entirely confined to the soft parts and no change could be made out in the bones. Skiagrams of the knee-joints showed the epiphyses and cartilages to be normal. The long bones showed no thickenings either diffuse or nodular. The stiffness of some of the joints appeared to be due to adhesions but there was no ankylosis. The condition was a very chronic and painless form of synovitis lasting nearly seven years, symmetrical in its distribution, involving the soft parts without obvious changes in the bones, and thus strongly suggested a syphilitic origin which was confirmed by the visceral changes, together with the history.—Mr. WALLIS, agreeing with the diagnosis, remarked that the permanent damage done to the joints by syphilitic disease was rarely very great.—Dr. POYNTON, however, believed that there were different types of syphilitic joint disease. Some were confined to the synovial membrane, others attacked the cartilage. In the case before the society there was a good deal of synovial thickening and this was often very rebellious to treatment.—Dr. J. PORTER PARKINSON asked why the case might not be one of osteitis deformans occurring in a syphilitic child and Dr. FLETCHER replied setting forth the grounds upon which the diagnosis was based.

Dr. ALFRED EDDOWES exhibited (1) a case of Lichen in a woman, aged 55 years. The eruption had existed for the past 12 months. Flat papules existed in many places and hard, pointed papules (so-called lichen pilaris) in other places. Dr. Eddowes gave his reasons for regarding the case as causally associated with gout. 2. Dr. Eddowes also exhibited microscopic sections of Skin Gout taken from the ear of a patient suffering from other manifestations of acute gout in the foot. The specimen showed that the first destructive change was hyaline and that this was followed by a colloid deposit of biurate of sodium.—Dr. POYNTON remarked that his own observations on gouty deposits were in accord with those of Dr. Eddowes; the primary change was necrotic, biurate crystals were deposited secondarily, a point which was insisted upon by Ebstein. It was sometimes stated that the pain and the lesion were both the result of deposits of biurate of sodium, but this was not so, the biurate was secondary.

Mr. V. WARREN LOW exhibited a case of Multiple Diffuse Lipomata in a man, aged 46 years. The tumours on the neck had appeared 12 years ago and those on the other parts five years ago. Enormous masses existed round the neck.—The PRESIDENT remarked that the result of treatment in such cases was very unsatisfactory and he referred to a similar case.

CLINICAL SOCIETY OF LONDON.

Congenital Elevation of the Scapula.—Traumatic Axillary Aneurysm successfully treated by Proximal Ligature.—Aneurysm of the Intracranial Part of the Left Internal Carotid.—Appendix-abscess followed by Abscess in the Left Iliac Region.

A MEETING of this society was held on Nov. 11th, Dr. FREDERICK TAYLOR, the President, being in the chair.

Mr. CHARLES R. KEYSER read a paper on Congenital Elevation of the Scapula. The patient was a girl, aged nine years, who was taken to hospital because of deformity of the left shoulder-blade, which had been noticed for one month. No cause was discoverable and the deformity gave rise to no symptoms. The left scapula was two and a half inches higher than the right but the bone was of the same size as its fellow. Movement of the arms, both active and passive, was normal. No osseous bridge could be felt between the vertebral border of the scapula and the spine and there was no lateral curvature. There was no paralysis of any muscle. The x rays showed nothing abnormal and the two arms were of the same length. No other deformities were present. No active treatment had been adopted as the condition gave rise to no trouble. Cases of congenital elevation of the scapula might be classified into four groups: 1. Where there was a bridge of bone between the vertebral border of the scapula and the spine. 2. Where there was absolute absence of one or more muscles forming the shoulder girdle. 3. Where there was a long and everted supraspinous portion of the scapula. 4. Where the scapula was normal or smaller than usual, with short or otherwise defective muscles. The great majority of cases fell under the last group. The most interesting cases were those where there was an osseous bridge between the scapula and the spine as it could be dealt with surgically with most gratifying results. The deformity was usually unilateral and more often seen on the left than on the right side. Other deformities were commonly present, such as spina bifida. The theory which seemed to account for the elevation of the shoulder in the most satisfactory manner was that suggested by Sprengel in 1891—viz., that the arm became fixed, in utero, behind the back. The formation of the osseous bridge which was present in some cases was also discussed and references were made to other recorded examples of the deformity.—Mr. RUPERT T. H. BUCKNALL had met with several cases of the kind described by Mr. Keyser. He (Mr. Bucknall) could not agree with the explanation offered by Sprengel, for in that case the forearm and hand would also be deformed. In his view the deformity was developmental in origin, the fibrous bands and bony bars being due to a developmental defect in the muscles before the mesoblastic differentiation had been completed. The precise position of the scapula depended upon the particular muscles affected. Other deformities were frequently present in these cases.—Mr. KEYSER, in reply, thought that the developmental explanation would hardly explain the layer of cartilage sometimes found between the spine and the scapula.

Mr. PHILIP TURNER and Mr. RAYMOND JOHNSON communicated a case of Traumatic Axillary Aneurysm successfully treated after extensive extravasation had occurred by proximal ligature of the axillary artery. The patient, a woman, aged 70 years, fell down stairs on to the left shoulder in the year 1899, the injury being followed by much bruising of the part and paralysis of the hand and forearm. Three weeks later it was found that a pulsating tumour as large as a Tangerine orange was present in the anterior part of the axilla; the pulse at the wrist was not perceptible and the circulation in the limb was feeble. After the lapse of several months great improvement had occurred in the muscular power and the radial pulse was again perceptible. During the third year after the accident some gradual increase took place in the size of the aneurysm but it was unattended with any symptoms of pressure. In October, 1902, a small bruise appeared over the posterior axillary fold and a few days later a considerable extravasation occurred with intense pain and extensive discolouration of the skin. An operation was performed and the axillary artery was ligatured in the first part of its course. All pulsation in the axilla was arrested by the ligature but no anxiety was at any time felt after the operation as to the vitality of the limb, the circulation in which remained good. The opening in the skin of the axilla continued to discharge slightly until about three weeks after the operation, when a very free escape of the extravasated blood occurred, and after slightly enlarging the opening a quantity of coagulum was removed with the finger. From this time the discharge quickly lessened, the swelling gradually and completely subsided, and the final result was in every respect satisfactory. It was pointed out that the chief point of practical interest of the case consisted in the fact that a traumatic axillary aneurysm, after the occurrence of extensive extravasation, was successfully dealt with by the proximal ligature. According to the usual teaching on this subject such a favourable result was hardly to be expected in such circumstances. Probably the long duration of the aneurysm had a favourable effect by causing the collateral supply to be well established. The treatment adopted was infinitely less severe than the alternative method of freely opening up the axilla and dealing with the artery at the site of the aneurysm. Reference was made to certain recorded cases of traumatic aneurysm from bullet wounds in which the treatment by proximal ligature was adopted with success. In two cases of diffuse extravasation into the axilla a successful result followed ligature of the subclavian artery in the third part of its course.

Mr. H. BETHAM ROBINSON and Mr. EDRED M. CORNER brought forward a case of Aneurysm of the Intracranial Part of the Left Internal Carotid Artery caused by a bullet wound through the right eye, entering about the right outer canthus and completely destroying the globe. There was no wound of exit. When admitted into St. Thomas's Hospital immediately after the accident the patient, a woman, aged 21 years, was unconscious and showed marked signs of cerebral irritation. The right eye was excised but signs of sympathetic inflammation appeared in the other eye. Several attacks of severe epistaxis from the right nostril occurred. The left cornea ulcerated and on the twenty-fourth day there were other signs of nerve implication, sensation being absent over nearly all the distribution of the upper two divisions of the fifth nerve. Ptosis and paralysis of the sixth nerve and complete ophthalmoplegia externa were noticed on the thirty-third day. After several attacks of hæmorrhage which always came from the right nostril, the same side as the destroyed eye, it was decided to ligature the internal and external carotids on the right side, the operation being performed by Mr. Corner. On the sixth day after this she woke up completely blind, which was considered to be due to some lesion of the optic nerve behind the entrance of the central vessels. From now onwards her general condition gradually improved; the partial paralysis passed off and consciousness returned. She was sent to a convalescent home, the period of improvement lasting for 97 days. She was then readmitted for another severe hæmorrhage from the right nostril which was stopped by plugging. Three days later a very violent hæmorrhage occurred and she died in three minutes. At the necropsy the bullet was found to have pierced the inner wall of the right orbit, traversed the body of the sphenoid, and entered the interior of the skull close to the left anterior clinoid process; from this point it had turned backwards and lodged on the under surface of the brain near the calcarine fissure. Close to the anterior clinoid process was a small aneurysm of the left internal carotid artery and lodged in its wall was a splinter of bone. The sac communicated with the track of the bullet and in this way with the right nostril, the fatal bleeding having taken place along the sinus thus formed.

Mr. STEPHEN PAGET read notes of a case of Appendix-abscess, followed by abscess in the left iliac region, with subsequent internal strangulation, operation, and recovery. He said that the occurrence of a secondary abscess after the operation for appendix abscess was not necessarily due to any breaking down of adhesions at the time of the operation. The wonder was that these secondary abscesses were so rare. The free shifting of intestine or of omentum in and out of the primary abscess cavity, and the changes of tension and of pressure due to the operation allowed infection to be carried or sucked from one part of the abdominal cavity to another. He mentioned a case of this kind and then described the case of a girl, aged 13 years, an epileptic, with appendix abscess, whose appendix was removed in April, 1903. Nine days later she had an abscess in the opposite iliac region, which also was opened and drained. 16 months later she was again admitted to hospital with acute obstruction. On median incision the intestines were found distended, and hidden under them was a collapsed coil deep in the abdominal cavity, tightly nipped under a narrow transverse band. Division of this band was followed by rapid recovery. Mr. Paget commented on the fact that the epileptic fits were suspended while the wounds were discharging and returned when they were healed. He also stated that the patient during the 16 months had been subject to attacks of abdominal pain and tenderness which occurred all, or nearly all, at night when she had been in bed and asleep for some hours. They had been attributed in a vague way to adhesions, but the existence of a transverse strangulating band might almost have been inferred from the very nature of the case. In any case of

double suppuration in the abdominal cavity, if obstruction followed, its cause must be sought, not at either centre of suppuration, but between them, and would be reached through an incision mid-way between the two scars.—Dr. H. S. FRENCH commented on the cessation after operation of the epileptic fits from which the patient had previously suffered.—Dr. W. PASTEUR asked how frequently might adhesions be expected to form after abdominal operations and what were the causes which led to them.—Mr. LAWRIE H. MCGAVIN remarked that the question of adhesions forming after operation was a very important one. Adhesions might certainly be expected after acute inflammatory conditions such as those in the case of Mr. Paget. Mr. McGavin referred to a case of tuberculous peritonitis followed later by adhesions producing obstruction.—Mr. R. P. ROWLANDS referred to a case of ovariotomy in which the pedicle was left at the operation. Some years later the woman was taken to hospital with obstruction due to a band of adhesion.—Dr. J. P. ZUM BUSCH had operated upon a good many abdominal cases for a variety of conditions but in his experience post-operative bands were not common and rarely gave rise to trouble subsequently.—Mr. PAGET replied.

OPHTHALMOLOGICAL SOCIETY.

Intra-ocular Tumour covering the Optic Disc.—Some Anomalous Sarcomata of the Choroid.

AN ordinary meeting of this society was held on Nov. 10th, Mr. J. TWEEDY, the President, being in the chair.

Mr. SIMEON SNELL (Sheffield) described an instance of Intra-ocular Tumour which completely enveloped the optic disc, in a man, aged 37 years. In January, 1904, he noticed that the right eye was blind and when examined in February he could only distinguish fingers indistinctly. An opaque mass covered the optic disc, having a cyst-like appearance at first. The family history was good. The patient did not present himself again till August, by which time the mass had enlarged considerably and had assumed a more solid appearance. It was spherical and nodular and more than twice the size of the disc, which it completely occluded. The most prominent part could just be seen with + 11 D., an adjacent area with + 6 D., and the macular region with + 2 D. A coloured ophthalmoscopic drawing made at this time was exhibited. The diagnosis was tumour growing from the disc or its immediate neighbourhood and the eye was removed at the end of August, the nerve being severed as far back as possible. Close to the outer side of the nerve sheath was a small black nodule of the size of a pin's head. Mr. E. Treacher Collins, who examined the eyeball, reported a melanotic growth at the posterior pole, having a base seven millimetres across which extended from the edge to a little below the centre of the disc.

Mr. J. HERBERT PARSONS read a paper on Some Anomalous Sarcomata of the Choroid. Six cases were demonstrated by means of lantern slides. Case 1 was an ordinary melanotic sarcoma of the choroid in the third stage, the extra-ocular extension being unpigmented. The patient died a year after removal of the eye and was found to have secondary, bile-stained, spindle celled sarcoma of the liver and squamous-celled carcinoma of the ribs, lung, and mediastinal glands. Cases 2 and 3 were almost identical in appearance and general character. The very necrotic round-celled growths were angio-sarcomata of the choroid. There was extensive necrosis of most other structures in the eye. Case 4 had an extraordinary family and personal history. The mother and a younger sister had each had an eye removed at Moorfields Eye Hospital for sarcoma of the choroid and the patient had had her breast removed for a tumour. There were two small melanotic sarcomata of the ciliary body and anterior part of the choroid and a large bilobed, necrotic angio-sarcomatous mass springing from the choroid posteriorly. The other structures of the eye were necrotic and there were many hæmorrhages. Cases 5 and 6 were necrotic angio-sarcomata springing from the choroid at the posterior pole of the eye. The other structures of the eye were also necrotic. The points specially insisted upon were as follows: the similarity of the growths macroscopically to organising blood clots and their apparent origin in the retina—an appearance which was demonstrated to be erroneous; the varying occurrence of hæmorrhage, the importance of not overlooking sarcoma of the choroid in cases of severe intraocular hæmorrhage (cf. Verhoeff), and the relation of the hæmorrhage to the necrosis, whether a cause or result, both probably occurring; the necrosis—its dissimilarity from the patches of necrosis in ordinary sarcomata, its universality, not only throughout the tumour, but also in other parts of the eye. The deductions were that the necrosis was not due to a preliminary iridocyclitis (cf. Leber and Krahnstöver), for there was little inflammatory reaction—infiltration, &c.—inside the eye; that it was not due to thrombosis and only partially to hæmorrhage, for the intra-ocular tumours were necrosed as a whole, and anastomosis was too free in the eye to permit of this result; that it was probably due to endogenous microbic infection, essentially by means of toxins universally distributed throughout the eye by the intra-ocular fluids, hence the comparative absence of leucocytes. Microbes were also probably present, finding a suitable nidus in the necrotic tissues, hence the slight amount of inflammatory reaction in the less severe cases. The theory was comparable with the most probable theory of sympathetic ophthalmia—viz., generalised endogenous infection by ? invisible organisms (cf. Römer). It explained the marked inflammatory reaction sometimes seen outside the eye. The growths were probably of relatively low malignancy on account of their genesis—peritheliomata—their necrotic condition, and the thrombosis of the vessels. If, therefore, they were not excised they would shrink and become examples of shrunken globes containing choroidal sarcomata. Further, they were an early stage of this small group, a stage which had not before been described. That the eyes would inevitably shrink was shown by the albuminous constitution of the intra-ocular fluids, which would lead to diminished filtration and stasis; moreover, the universal necrosis must lead to shrinkage. The growths were also identical in type with those previously found in shrunken globes (cf. Leber and Krahnstöver). Such tumours were probably frequently overlooked, owing to their great resemblance to intra-ocular blood clots. They were of great importance practically from the point of view of prognosis, and especially theoretically, since they marked a stage which had previously escaped observation in the life-history of a group of sarcomata.—Mr. TREACHER COLLINS suggested that necrosis was due to intra-ocular tension and interference with vascular supply as normal tissues, such as the iris and the retina, were likewise necrosed in these cases, while the extra-ocular portion of the growth was not so affected.—Mr. PARSONS, in reply, dissented from the view that necrosis resulted from interference with the vascular supply, as there was free anastomosis, and while necrosis was so widespread on the surface of the tumour the centre escaped; he attributed the necrosis rather to metastatic infection, comparable with the changes in sympathetic ophthalmia.

The following cases and specimens were shown:—

Mr. R. W. DOYNE and Mr. S. STEPHENSON: Peculiar Condition of Corneal Opacity.

Dr. GEORGE COATES: Peculiar Appearance in a Retinal Vein.

Mr. M. S. MAYOU: An Unusual Form of Lamellar Cataract.

Mr. EDGAR CHATTERTON and Mr. GEORGE W. THOMPSON: Rodent Ulcer.

Mr. TREACHER COLLINS: Congenital Opacities in the Cornea in Two Members of the same Family.

Dr. F. J. POYNTON and Mr. J. H. PARSONS: Amaurotic Family Idiocy.

Mr. LESLIE J. PATON: Sections of an Orbital Growth.

EDINBURGH OBSTETRICAL SOCIETY.

Presidential Address.—Hydrocephalic Infant delivered by Spinal Tapping.—Cæsarean Section in a Patient with Two Uteri and Two Vaginæ.

A MEETING of this society was held on Nov. 9th, Dr. N. T. BREWIS, the President, being in the chair.

The following office bearers were elected for the ensuing session:—President: Dr. Brewis. Vice-Presidents—Senior, Professor J. A. C. Kynoch (Dundee); Junior, Sir J. Halliday Croom. Treasurer: Dr. W. Craig. Secretaries: Dr. J. Lamond Lackie and Dr. G. F. Barbour Simpson. Librarian: Dr. F. W. N. Haultain. Editor of Transactions: Dr. Lamond Lackie.

Dr. BREWIS in his presidential address referred to the great advance made in abdominal surgery during the last

20 years. The character of the tumours had also changed; formerly the ovarian tumours which came to the operator were comparatively few in number, of large size, and were frequently complicated with formidable adhesions. Now their number was legion; they were frequently not large and adhesions were often absent. This had resulted from the better education of practitioners who diagnosed these tumours early and advised early operation with the recognition that tapping never cured an ovarian tumour but brought about complications. Tapping might, however, be employed justifiably a few days before operating when a large tumour was embarrassing the action of a weak heart. The President then discussed the danger of infection being transmitted from a patient who was already septic to one who was not, after which he considered the methods and relative merits of hysterectomy, oöphorectomy, and myomectomy, and the necessity of preserving the ovaries as much as possible. Passing on to the subject of the training of gynæcologists he said that if a man desired to become a specialist then his course of instruction must be that of a general surgeon, as he should feel qualified to deal with any complication present in the abdomen. It was to be recommended that he should act for some months as a demonstrator in the anatomical rooms, then as house surgeon in the general surgical wards, and afterwards in the maternity hospital before he became a house surgeon in the gynæcological wards. The life of a gynæcological surgeon was full of exceptional anxiety, neutralised, however, by much satisfaction. His aim should be to do good work and to do it well.

Dr. J. W. BALLANTYNE read notes on a Hydrocephalic Infant delivered by Spinal Tapping. A woman was sent to the Maternity Hospital with her child born as far as the shoulders and the head still above the pelvic brim. She had passed through three previous confinements, two children being born alive and one stillborn from some unknown cause. During this pregnancy she had noticed that her abdomen was larger than in previous pregnancies. The practitioner who attended her in this labour found a transverse presentation, for which he turned after full dilatation of the os. He brought down the feet easily, the body and arms were brought down with considerable difficulty, but no efforts could extract the head. Attempts were made to apply the forceps but without success. She was sent to the Maternity Hospital about three hours after turning; the patient was then in a collapsed condition. The uterus was of about the size of a full-time pregnancy and on passing the fingers behind the fœtal back a well-ossified occipital bone was felt, with a membranous part beyond it. The child was dead. Hydrocephalus was first thought of but it might be an encephalocele, meningocele, cranial or facial teratoma, or a dicephalus with a single body. Hydrocephalus being the most probable condition it was decided to treat it as such. Owing to the mother's condition and to the further manipulation and delay necessary for perforation of the cranium Dr. Ballantyne tried tapping of the spinal cord. With a scalpel an incision was made between the sixth and seventh dorsal vertebræ into the spinal canal; no fluid escaped. A long silver catheter was then insinuated into the spinal canal, bending the back of the infant so as to make the curves of the spinal cord and the catheter correspond. Some resistance was felt on it reaching the cranial cavity but further pressure caused an escape of fluid. The fluid was slightly yellowish and amounted to 36 ounces. The child was then very easily delivered. Without the fluid the child weighed 12 pounds and the circumference of the head was 21½ inches. The procedure adopted was first proposed by Van Heuvel in 1848 and carried out by Tarnier in 1868, by N. Charles in 1881, and by Ira G. Stone in 1897. In another case it failed owing to the passage of the catheter being obstructed by fracture of the cervical vertebræ.—Professor A. R. SIMPSON, Dr. HAULTAIN, Dr. S. MACVIE, Dr. J. RITCHIE, Dr. D. BERRY HART, and Dr. W. FORDYCE discussed the paper.

Dr. R. P. RANKEN LYLE (Newcastle-on-Tyne) read notes on a case of Cæsarean Section at Full Term in a patient with two uteri and two vaginæ. The woman was 31 years of age and had had three abortions in successive years; after the last she had prolapse of the uterus, the cervix appearing at the vulva, which was treated with a Smith-Hodge pessary for seven months. A year afterwards her medical attendant was sent for and found her in labour at full time. The os uteri was of the size of a florin and was displaced forwards by an irregular nodulated hard mass of about the size of a closed fist and immediately in front of the sacrum. Believing it to be a mass of hardened fæces he ordered an aperient and an enema but with no effect on the obstruction. After two hours, as the pains were strong, the head high up in the pelvis and its advance obstructed, Dr. Lyle was asked to see the case. On examination the rectum was found to be empty. The mass was diagnosed as a fibroid in Douglas's pouch and as delivery was impossible by the vagina, Cæsarean section was decided upon. On opening the abdomen the uterus was found in front and was opened; the child, who was alive, and the placenta were removed and the wound was closed with the blanket stitch. The mass was lifted up from Douglas's pouch and proved to be a myomatous uterus, independent of the other one and attached to the top of the vagina on the right side; it had only one ovary and tube on its outer side, none on the inner. There was a reflection of peritoneum from the bladder direct to the rectum between the two uteri. The myomatous uterus was removed by supravaginal amputation. The patient made a good recovery. The vagina was found to be divided by a complete septum attached at its lower end to the vestibule in front and to the perineum posteriorly; at the top of each vagina a distinct and separate cervix was found. The case was unique.—The PRESIDENT and Professor SIMPSON commented on the paper.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Lymphatic Leukæmia.—Aortic Aneurysm.

A MEETING of this section was held on Oct. 28th, Dr. H. C. EARL being in the chair.

Professor E. J. MCWEENEY read a paper entitled "Hæmatological Observations on a case of Chronic and on one of Acute Lymphatic Leukæmia." The first case was that of a man aged 55 years admitted to the Mater Misericordiæ Hospital in Dublin on Sept. 2nd, suffering from splenic tumour, glandular enlargement, and asthma. An injury to the left side of the abdomen was sustained last January, after which a sensation of discomfort developed—a possible traumatic origin being thus suggested. The cervical glands began to enlarge about Easter; the splenic tumour was first noticed in May. The blood count on admission showed 3,908,000 red corpuscles and 163,000 white corpuscles per cubic millimetre; two days later the corresponding numbers were 2,848,000 red corpuscles and 206,000 white corpuscles. The differential count yielded polymorphic cells, 7·8 per cent.; large mononuclear cells, 2·3 per cent.; lymphocytes, 89·5 per cent.; and a few normoblasts, but no eosinophile or mast cells. On Sept. 25th he developed lobar pneumonia, to which he succumbed on the 28th. There were no diminution of the total leucocyte count consequent on the infection and no increase of polynuclear elements in the peripheral blood on the day preceding death. The count on that day showed 3,048,000 red corpuscles and 332,000 white corpuscles per cubic millimetre; the mononuclear cells were 92·4 per cent. On the other hand, the blood taken from the lung at the necropsy 12 hours after death yielded 20·5 per cent. of polynuclear cells as well as 0·5 per cent. of eosinophile cells and 3·5 per cent. of myelocytes, neither of which could be found in the peripheral blood during life. The spleen weighed 51 ounces, was marbled with red and grey patches, and contained infarcts. Microscopically the trabecular system was much reduced and the follicles were obliterated by a uniform distribution of rather large mononuclear elements. The marrow of the femur and humerus was of the normal character; that of the sternum was lymphoid. The liver weighed 283 ounces; the kidneys and suprarenal bodies showed typical lymphoid infiltration. The absence of blood change consequent on pneumococcal infection and the absence of the marrow change were the two most interesting features of the case. The second case was that of a boy, aged nine years. At the time of admission to hospital he had been ill for six weeks and his temperature had varied from 100° to 101° F. He suffered from swelling of the glands, epistaxis, and great prostration. The spleen was moderately enlarged, as was also the liver. There were petechiæ on the skin of the abdomen and legs. The blood count on admission showed 1,898,000 red corpuscles and 212,000 white corpuscles per cubic millimetre, lymphocytes, large and small, being 98 per cent., with

only 0·5 per cent. of polymorphic cells. Many of the lymphocytes showed signs of degeneration. On puncturing the skin through a droplet of Unna's polychrome methylene blue their nuclei took the stain at once. No hard-and-fast line of separation could be drawn between small and large forms; the latter were very labile. Eosinophile and mast cells were absent; normoblasts were present in small numbers but megaloblasts were absent. The patient died 19 days after admission from the uncomplicated disease. The blood count on the day of death was: red corpuscles, 820,000; white corpuscles, 723,000, 99·5 per cent. of which were lymphocytes. Several fields had to be searched before a polymorphic cell was encountered. At the necropsy the heart was found to be distended with puriform blood. The thymus was much enlarged; it weighed 46 grammes. All the serous membranes were covered with petechiæ. All the glands were moderately enlarged, soft, and hyperæmic, but not confluent. The spleen weighed 12 ounces and seemed almost normal, save for the enlargement. The liver was enlarged with enormous leukæmic infiltrations, the intralobular capillaries being literally plugged with lymphocytes. The kidneys were extensively infiltrated. The lymphoid structures of the intestine were enlarged. The marrow of the femur and tibia was hyperæmic and typically lymphoid (splenoid of Ziegler). It consisted almost entirely of large peculiarly labile lymphocytes. Normoblasts were frequent but megaloblasts were few. Coarsely granular cells were absent.—Professor A. H. WHITE said that during the past year he had seen a case of the so-called spleno-medullary leukæmia in which there was apparently a direct connexion between an injury and the disease. The patient fell down the hold of a ship and hurt himself about the abdomen but was able to work on for a fortnight, after which he went into hospital and died in a few weeks from leukæmia.

Dr. J. A. MATSON showed a specimen of Aortic Aneurysm perforating the Œsophagus taken from a woman, aged 50 years. There was a history of alcoholism but none of syphilis. The patient had been subject to attacks of rheumatic fever. Two years previously she had an attack of bronchitis in which she expectorated a good deal of blood.

Dr. T. GILLMAN MOORHEAD exhibited a case of Aneurysm of the Aortic Arch which had ruptured into the Pleura. The specimen was obtained from a man, aged 35 years, who had contracted syphilis ten years previously. The only symptom complained of was cough. Rupture occurred suddenly during sleep, after the patient had been under treatment for four days. Almost the entire wall of the sac was necrotic, brittle, and very thin, and only a small amount of soft clot was present. 100 ounces of blood were found in the left pleural cavity. The curious point about the case was that rupture had not occurred while the patient was at work, as he had been up to within a week of his death.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—The annual general meeting of this society was held at 11, Chandos-street, Cavendish-square, London, W., on Nov. 11th, Mr. John Bark, and subsequently Mr. W. J. Chichele Nourse, presiding.—A vote of thanks to Mr. Bark, the retiring president, was proposed by Mr. E. Dennis Vinrace, seconded by Dr. V. H. Wyatt Wingrave, and carried.—Dr. W. H. Kelson described the case of a patient who had suffered from hoarseness for several years. A papilloma was found occupying the anterior commissure and anterior part of the left vocal cord. The movements of both cords were good.—Dr. Wingrave described a case of Salivary Calculus simulating Angina Ludovici in a male, aged 30 years, and he exhibited the specimen which was removed. There was a considerable and very painful swelling immediately beneath the jaw between the tongue and the hyoid bone. The patient could not open his mouth more than half an inch and there was difficulty not only in breathing but in swallowing and masticating. The lingual tonsils were enlarged and they completely hid the epiglottis, but on running the fingers along the floor of the mouth a salivary calculus was felt at the side of the frænum and when it was removed the swelling went down and the patient was all right in a few days. The calculus was underneath in Wharton's duct.—Mr. Bark said that three years ago he had a similar case occurring in a man and he exhibited the calculus.—In a letter which was read by Mr. W. Stuart-Low, Dr. P. H. Abercrombie described a somewhat similar case which occurred in his practice last April, the patient being a man aged 54 years.—Dr. Wingrave described a case of Epithelioma of the Laryngo-pharynx in which Jacques's œsophageal tube was worn. The patient was a man, aged about 60 years, who came under Dr. Wingrave's observation some eight or nine months ago. The infiltration was very extensive, so that it was inoperable. In order that food might be taken a Jacques's tube was introduced through the œsophagus into the stomach and then it was caught by passing a loop through the nose and brought up through the nostril and carried over to the ear where it was fixed. The tube had never been taken out for seven months and beyond some discomfort from the fœtor the man was no worse in consequence. He could feed himself remarkably well and could correct the fœtor by swallowing a mouthful of sanitas and water until it reached the constriction and then eructating. The pain was great but he derived much comfort from having a grain of powdered opium to smoke along with his tobacco.—Dr. Kelson mentioned that a few months ago he had shown at a meeting of the association a woman, aged 32 years, suffering from epithelioma affecting the posterior part of the larynx and the upper part of the œsophagus. She had difficulty in swallowing and he found that a No. 12 solid-ended Jacques's catheter answered very well. The end was just inside the vestibule of the nose and there was a little bit of silk passing from there so that the tube could not be seen in the ordinary way. When food was to be taken she pulled on the string a little and drew enough of the soft catheter up to pass the finger in and so feed herself.—Mr. Bark said that in the dysphagia produced by laryngo-pharyngeal carcinoma his experience had been in the use of Symonds's tubes which, however, were unsatisfactory in most cases and were soon rejected by patients.—Dr. J. Dundas Grant described an operation for Exostosis of the Auditory Meatus, presenting close to the external meatus. He first used a dental burr and into the aperture made by it he introduced an instrument like a large wool-holder; he simply twisted it in and the exostosis came out quite easily.—Dr. Wingrave described a case of Primary Chancre of the Nose. He could not give any history with regard to the inoculation. The patient was a woman who had been married 14 months. She did not think she was pregnant. The symptoms did not date further back than three months, the active swelling having commenced two months ago.—Mr. Vinrace expressed the opinion that the patient would be found to be pregnant and that the case was one of inoculation through the fœtus and not an inoculation by direct contact forming a primary sore.—The President showed a case of Disease of Sinuses. A permanent opening had been made into the inferior meatus of the nose.—Mr. Bark said that he was not in favour of treating antral suppuration by an opening such as that described. If he were going to make an extensive opening into the outer wall of the nose or the inner wall of the antrum he preferred to do the complete operation—to remove the external wall and the superior maxilla. If for any reason, such as the objection of the patient, he could only do a tentative operation he preferred to make an opening into the canine fossa and to insert an indiarubber tube by means of which the patient could cleanse out the antrum through the nose.—The President replied that he had a particular reason for not doing the radical operation in the present case. Moreover, when he wished to open the sinus without doing the radical operation he did not care to make an opening into the mouth because re-inoculation from the mouth often took place and the suppurative abscess continued indefinitely.—The President exhibited an Aural Case for Diagnosis.—Mr. H. Clayton Fox suggested that the lesion might be keloidal formation secondary to some small cicatrix.—Mr. D. J. E. McDougall (Liverpool) said that the case seemed to be one of chronic furuncular inflammation and that thorough scraping would probably cure it. He considered that there was no appearance of keloid.—Dr. Wingrave, in showing some microscopical specimens, said that he intended to comment on only one of them—namely, that of tuberculous cervical lymphatic glands. After examining a large number of such cases he was extremely doubtful as to why they should be called tuberculous. He had stained that specimen and a number of others most carefully, hoping to find evidence of tubercle bacilli, but had not been successful. The same remark would apply equally well to lupus, in which no tubercle bacilli were found. On examining those glands, particularly those which were removed before there was any suppuration, no definite sign of tubercle

was found; there were simply hard dense masses of epithelioid cells and a certain amount of interstitial fibrotic change. Many so-called tuberculous glands were therefore not due to tubercle at all. It was likely that infection from streptothrix from the tonsils and other channels might be the real cause of the characters in question.—Dr. W. Jobson Horne said that although the difficulty of staining sections to demonstrate the tubercle bacillus was a common experience he did not think that this justified jumping to the other extreme and saying that the glands so examined were not tuberculous. It was questionable whether it ought to be said that the bacilli were absent from that section and it would be better only to say that they were not stained. The reason for their not being stained was for some occult cause to be found in the action of the lymphoid tissue itself upon the organism. He then described some inoculation experiments upon guinea-pigs, proving that such glands were really tuberculous.—Dr. Wingrave showed a Syringe for Intra-laryngeal Injections.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on Nov. 4th, Mr. C. M. Tuke, the President, being in the chair.—Dr. P. S. Abraham showed (1) a case of Sclerodermia with Bullæ and Ulceration and (2) a remarkable case of Keloid, the result of a burn from gun-cotton explosion at Woolwich two years ago. The face, head, neck, and hands were principally affected and there were extensive loss of tissue and hideous scarring. The keloid had especially developed on the cicatrix of the lower jaw, on each side forming large masses and hanging down.—Mr. J. G. Pardoe was of opinion that in addition to the keloid there was an immense amount of solid œdema, interfering with the capillary lymph channels and causing stasis of the lymph flow.—Dr. A. E. Russell showed a case of Tabes Dorsalis with gastric crises in a patient, 42 years of age. There was no history of syphilis but the patient had gonorrhœa some years ago.—Dr. Russell exhibited for Dr. A. P. Beddard a case of Tremors, the patient being a man, 27 years of age, who went through the siege of Ladysmith, where he contracted typhoid fever and dysentery, after which the tremors appeared at irregular intervals, involving chiefly the hands and to a less extent the head and the lower limbs. Dr. Russell considered this case to be functional in origin, there being no symptoms of organic lesion.—Dr. Russell also showed a case of Myositis Ossificans in a man, aged 37 years, which had developed slowly since the age of seven years. Bony growths were felt in the muscular system in innumerable positions in the form of bony masses in the tendons and insertions of the muscles, causing great impairment of movement of joints, several of which were ankylosed, thus rendering him quite helpless. Otherwise he was in fair health. There was no history of the disease in any other member of the family.—Dr. A. Gaster related that he had a family under his observation in which the grandfather, the father, and three sons had the disease, whereas the mother and two daughters had escaped.—Mr. Aslett Baldwin showed a case of Tabes Dorsalis with Charcot's disease of the tarsus, in a man aged 34 years. The disease apparently commenced in 1900 after a slight injury to the feet, since which time the enlargement of the feet had slowly progressed. He could walk very well until August, 1904, when the right foot suddenly commenced to turn inwards, necessitating the wearing of irons to keep the foot straight.—Mr. G. A. Garry Simpson showed (1) a case of Clonic Spasm of the Soft Palate in an unmarried woman, aged 40 years, and (2) a case of Pharyngomycosis Leptothricia, the subject being a married woman, aged 27 years, whose attention was first drawn to the disease by having a constant disagreeable taste and having hard, white, chalky substances on the tonsils. The disease was associated with the leptothrix fungus, a specimen of which Mr. Simpson exhibited under the microscope. He considered that the leptothrix formed a nucleus in the tonsillar crypts and accumulated altered cells and débris. Local application of germicides appeared to do no good. The disease wore itself out in time, especially with the aid of iron tonics. Mr. Simpson intended to apply the electric cautery.—Mr. Baldwin suggested Turkish baths, which retarded the growth of cultures of organisms, and he mentioned a case which was quite cured by this means.—Dr. J. B. Ball considered the leptothrix as accidental and not the cause of the disease.—Mr. J. Cole Marshall showed for Dr. E. P. Paton a case of Misplaced Testicle situated in the left side of the perineum. The testis was surrounded by a hydrocele, with a hernia probably sciatic.—Mr. Donald J. Armour showed (1) a case of Ankylosis of the Jaw in a woman, aged 24 years, who was one of six children who are all living and well. Her jaw had been ankylosed since infancy and the jaws could not be separated. He also showed (2) a case of Hypertrophic Pulmonary Osteoarthropathy in a man suffering from syphilitic synovitis of the knee-joint. He had clubbing of the ends of all the fingers and the toes with curving of the nails. There was no kyphosis or swelling of the wrists or ankles, but the left shoulder joint was painful and grating on movement. Injuries to the terminal phalanges caused no pain. On examination of the chest there were well-marked signs of chronic bronchitis and emphysema.—Dr. A. M. Ross Sinclair showed a most interesting and rare case of Paralysis of the tenth, eleventh, and twelfth cranial nerves in a woman, aged 29 years, who first complained at the beginning of September of pain in swallowing solid food, irritable cough, and hoarse voice with loss of weight. The right side of the tongue, the soft palate, and the vocal cord on the same side were completely paralysed, together with the sterno-mastoid and trapezius muscles. The patient's sensory, motor, and reflex functions were otherwise normal. The lesion was probably due to syphilis contracted seven years ago and there is probably a gummatous thickening of the membrane at the base of the medulla. The patient was improving under specific treatment.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 4th.—Dr. Thomas Churton read a paper on Disease of the Prefrontal Lobe. He referred to Dr. Campbell's recent definition of the prefrontal area[1] as the tip, or, roughly, the anterior fourth of the frontal lobe. Since Sir William Gowers had designated all the area lying anterior to the ascending frontal gyrus prefrontal, while Dr. Campbell denied that the prefrontal lobe, as defined by him, though it "had a future before it," had any present importance, confusion might possibly arise. It was not unlikely that the extreme tip of the lobe might be imperfectly developed and that when this part was the seat of a tumour or abscess the symptoms produced might be due to paralysing compression of the more developed neurons lying immediately behind it. The rapid improvement which sometimes occurred after operations which simply mitigated the pressure without restoring the tip of the lobe perhaps favoured this view. But some scepticism still existed as to the use or importance of the entire lobe; it was held by some to be a "silent area," especially on the right side. There had been, however, many observations to the contrary. Two cases were then described. The first patient, who was a man, aged 36 years, under the care of Mr. R. Lawford Knaggs, had had a small encysted abscess in the tip of the left lobe for many years. In February, 1904, symptoms of brain disorder began. He had been of dissolute habits and now his impulses when aroused *viâ* the perception centres were not restrained. His conduct towards women, both hospital nurses and visitors, was grossly offensive, in utter disregard of the fact that such conduct was punishable in ordinary circumstances. Urine and fæces were passed in bed without remark. If anything were done for him—such as turning him over in bed to change the sheets—he became violent, swearing and striking at the nurses engaged. He never asked for food or for anything else whatever, though when friends visited him he seemed pleased and talked to them, though not sensibly. After operation he improved but relapsed time after time and eventually died on May 17th. The original abscess cyst was small but the brain around was softened in the position of the first and second frontal gyri close to the median line and base to the extent of two inches by one and a quarter inches by one and a quarter inches. The second patient was a man, aged 50 years. His family had thought him very ill-tempered for several weeks and one day he passed urine in his drawing-room. As a test of the correctness of the views held as to the functions of the prefrontal lobe the other conditions found before and after death were guessed, these two facts being given. It was quite correctly surmised that the patient had lost all interest and capacity with respect to his family, his business, and public affairs; that he was negligent as to dress and appearance; that a tumour was found in his prefontal (or frontal) lobe, and that, its course

[1] Journal of Mental Science, October, 1904.

being rapid, it was probably a sarcoma.—Mr. W. H. Brown, under whose care the patient had been, stated that these details were exact and that the tumour was of the size of a small Tangerine orange.—Dr. A. S. F. Grünbaum, Dr. F. W. Eurich, Dr. Adolph Bronner, and others discussed the paper.—Mr. S. M. Hebblethwaite read a paper on Angina Pectoris. He said that many of the symptoms of toxic angina were those of true angina. Herpes in the distribution of a cutaneous nerve occurred in a few instances and was a useful aid in the diagnosis between toxic and true angina. The occurrence of herpes, it was contended, indicated the toxic nature of the case.—Dr. T. Wardrop Griffith and Dr. Churton discussed the paper.—Mr. H. Littlewood showed a case of Double Popliteal Aneurysm treated by Removal.—Other cases and specimens were shown by Dr. A. G. Barrs, Dr. E. Ward, Dr. A. L. Whitehead, Dr. L. A. Rowden, Mr. B. G. A. Moynihan, Mr. H. Secker Walker, Mr. G. Constable Hayes, Dr. Wardrop Griffith, Dr. W. H. Maxwell Telling, Mr. Lawford Knaggs, and Dr. E. F. Trevelyan.

DERMATOLOGICAL SOCIETY OF LONDON.—An ordinary meeting of this society was held on Nov. 9th, Mr. Malcolm A. Morris being in the chair. The following were some of the cases shown.—Mr. G. Pernet brought forward a patient suffering from a Macular Eruption all over the body and limbs. The history showed that the rash had commenced four years ago in Assouan. The first thing noticed was the appearance of small reddish patches varying in size from that of the thumbnail to that of a florin. The patches appeared to be merely congestive and œdematous with a very slight tendency to a secondary scaling. They did not enlarge after once making their appearance and they gave rise to absolutely no symptoms; on the other hand no patch ever disappeared. They seemed to come out in successive crops so that when shown there was hardly room for the appearance of any more without the eruption becoming continuous. The diagnosis offered was that of the disease recently named by Dr. H. Radcliffe Crocker xantho-erythrodermia perstans.—Mr. Malcolm Morris showed a man who for the last two years had suffered with Asphyxia of the Edges of the Ears when the weather became in the slightest degree cold. This progressed so that actual gangrene of the skin followed and he had already lost some large pieces of the pinnæ. There was a generally poor circulation but no actual lesion elsewhere.—The majority of the members recommended daily galvanism to the affected parts.—Dr. J. J. Pringle brought forward a young woman who exhibited two forms of Tuberculide of the Skin. On the trunk and upper parts of the limbs there were groups of small infiltrated follicular papules showing all the classical characteristics of lichen scrofulosorum, a form of disease rare at this age. On the hands were the typical nodules beginning deep down in the skin and rising to the surface and forming indolent pustules which had been called by the French observers acnitis. There were large glands in both axillæ, but no other signs of tuberculosis, nor was there any history of tuberculosis in the family.—Dr. J. A. Ormerod showed a remarkable case of Skin Eruption in a boy, aged 12 years. The face was covered with large nodes and patches of thickened skin, so that the possibility of leprosy was at once suggested. Against this was the fact that the boy had never been out of England and there were no other symptoms of the disease nor did microscopic examination reveal any bacilli. The body was pigmented all over and was covered with small pitted scars the result of the necrosis and suppuration of small nodules, a few of which were still present. These came up in a somewhat urticarial manner and were then capped with pustules and according to the history sometimes vesicles and bullæ. There was an enlargement of the lymphatic glands in the groin and axilla. The case was brought for diagnosis and it was stated that the disease had begun three and a half years ago with itching. Diagnoses which had been offered were prurigo, dermatitis herpetiformis, leprosy, and tuberculide.—No member would give a positive diagnosis.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held in the School of Medicine, Dundee, on Nov. 3rd, Dr. Duncan occupying the chair.—Mr. D. M. Greig showed a boy who had suffered from Chronic Tuberculous Osteomyelitis of the Humerus. Numerous sinuses in the arm indicated extensive disease and the whole shaft of the humerus was excised. In from three to four months a new one was formed. Ten weeks previously when he had regained the use of his arm, he fell and fractured his new humerus in the middle of the shaft. Firm union was obtained at the end of six weeks. The specimen of the old necrosed bone was shown. It was specially interesting as it contained the original shaft lying loose in an encasement of osseous material, perforated in places, corresponding to the sinuses, this appearance suggesting a Chinese puzzle.—Dr. G. W. Miller (in Dr. McGillivray's absence) showed a man with Emphysema of the Right Lower Eyelid. The emphysema could be easily produced by blowing the nose. It subsided very quickly, showing that a fairly large opening existed in the nasal duct.—Dr. J. S. Y. Rogers showed a photograph of a child with an Enormous Occipital Meningocele. Operation for removal was carried out but the result was unsatisfactory.—Dr. R. C. Buist showed photographs of two Abnormal Mammary Conditions—viz., very marked hypertrophy and supernumerary mammæ in the axillæ.—Mr. Greig showed stereoscopic photographs of (1) a man with the "Warty" Variety of Epithelioma of the Lip; and (2) a woman with the "Warty" Variety of Epithelioma of the Anus.—Professor J. A. C. Kynoch exhibited and demonstrated an interesting collection of specimens, the results of various operations: (1) three cases of Extra-uterine Pregnancy; (2) three cases of Tubo-ovarian Cysts; (3) a Dermoid Ovarian Cyst removed at the seventh month of pregnancy; (4) two large Uterine Fibroids removed by abdominal hysterectomy; and (5) a Calculus formed round a Hairpin removed from the bladder of an insane patient.—Mr. Greig showed the Skull removed from a boy, aged 15 years, who died from Broncho-pneumonia and Waxy Disease of the Kidneys. For ten years of his life he had suffered from lupus of the face and other tuberculous skin affections. The lupus had been treated 11 times by spoon and actual cautery. The skin affections had been relieved but the disease had extended into the interior of the nose and was beyond reach. Examination of the skull showed absence of the nasal bones, alveolar margins of the upper maxilla, palate, turbinate bones, hamular process, pterygoid plates, and sella turcica, all being replaced by an overgrowth of spongy bone. The femur, tibia, and fibula were also shown from a case where disarticulation at the hip-joint was performed in a girl, aged 17 years, for Chronic Osteomyelitis.—Dr. G. Halley read notes of a case of Chronic Intestinal Obstruction. The patient was a female, aged 58 years. A laparotomy was performed and an annular structure in the sigmoid flexure was discovered. Owing to the distension and thinning of the wall of the colon nothing more than incision and suture of the colon to the abdominal parietes could be done. Improvement was very marked and the patient continued well and comfortable for over three months, when she gradually sank and died from exhaustion due to extension of the disease locally and to secondary deposits in the liver and elsewhere. The treatment of cases of such dilatation of the colon was discussed as were the difficulties to be overcome in operation.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on Nov. 9th at Bolingbroke Hospital, Mr. E. F. White, the President, being in the chair.—Dr. W. W. H. Tate read a paper on the Diagnosis and Treatment of Tubal Gestation in the early weeks. He remarked that the subject was one of special interest and importance and seemed likely to rival appendicitis in the increased frequency with which the disease was met with during the past few years. The disease, for which he should always be on the look-out, might come under the notice of the general practitioner at any time and failure to recognise it might be followed by serious results. The three important symptoms in connexion with tubal gestation were: (1) amenorrhœa or missed menstruation; (2) hæmorrhage and discharge of decidual casts; and (3) recurrent attacks of pain. In two-thirds of the cases there was a history of amenorrhœa or, at any rate, on careful inquiry it might be found that the onset of the patient's symptoms occurred a few days or a few weeks after the period ought to have come on. In one-third of the cases there was no history of missed menstruation. Whether amenorrhœa was present or absent there was invariably a hæmorrhagic discharge more or less persistent and dark-reddish in colour, associated with discharge of decidual casts, which in the majority of cases followed the onset of pain. Pain usually came on suddenly with severe signs of shock and collapse. But there were no constitutional symptoms and the patient

quickly recovered from the effects of the pain and in a few days was about again till she had a recurrence. Several attacks might follow each other and at last a more severe attack in which the diagnostic symptoms presented more characteristic features. Dr. Tate described two typical examples of tubal gestation. The first was a severe form where copious internal bleeding occurred. This class if not dealt with at the time or if the patient did not succumb passed on to pelvic hæmatocele. The second were cases where hæmorrhage was slight, the blood round the outer end of the pregnant tube or round a lacerated tube giving rise to conditions known as peri-tubal or para-tubal hæmatocele. The differential diagnosis was discussed, the commonest errors of diagnosis being: (1) from ordinary miscarriage; and (2) from pelvic inflammation. Occasionally the cases were mistaken for incarcerated retroverted gravid uterus. As regards treatment, cases should not be treated as pregnancy but as a new growth. In the first class of case, where hæmorrhage was severe, there was no question that patients should be treated on the great surgical rule in the treatment of hæmorrhage—viz., secure the bleeding point, which in this particular case was some part of the pregnant tube. Abdominal section should therefore be at once performed. In cases of pelvic hæmatocele where bleeding had occurred more gradually and gravitated into Douglas's pouch or in which the hæmorrhage, though sudden and severe at first, had gradually become roofed in by adherent bowel the treatment was debatable. When seen within a week or so after occurrence of the bleeding abdominal section was recommended. When a case came under notice when more than ten days had elapsed since the attack the adhesions of the bowel to the blood clot were much more firm and organised and any operation to remove blood clot was unsatisfactory. In such a case it was better to keep the patient in bed and watch for any indications for surgical interference.

LIVERPOOL MEDICAL INSTITUTION.—The first pathological meeting of the session of this society was held on Nov. 10th, Dr. James Barr, the President, being in the chair.—Dr. W. Murray Cairns exhibited with a radiograph a Fœtus showing Congenital Malformation of the Limbs.—Dr. Hubert Armstrong considered the specimen to be one of achondroplasia as shown by the slightly enlarged cranium, the pug nose with depression at the root, normal trunk but stunted limbs, and want of differentiation in the length of the fingers. If a child with this disease lived it became one of the types of dwarfs exemplified in the statuettes of one of the ancient Egyptian gods and in many of the pictures by old masters of court pageants and the like.—Dr. K. A. Grossmann showed microscopic sections of Subconjunctival Tumours. In the pharynx, tonsils, neck, and trunk were similar tumours; the structure in all was of the same nature, a small round-celled growth. The growths were probably not sarcomatous but of a lymphadenomatous nature.—Dr. W. Carter showed the Lungs and Heart of a patient in which the middle and lower branches of the right pulmonary artery were the seat of an organised blood clot; the patient lived 14 days after the condition was diagnosed.—Dr. W. B. Warrington showed a microscopical preparation of a Tumour removed during life from within the Dura Mater around the Cauda Equina.—Mr. E. M. Stockdale considered the tumour to be a hæmangio-sarcoma, an opinion shared by Dr. Warrington. The symptoms of the patient had improved considerably after the first operation but had now returned. From the nature of the tumour a second operation did not seem advisable.—Mr. George G. Hamilton showed a Carcinoma of the Rectum removed from a girl, aged 20 years.—Dr. E. E. Glynn mentioned that in the last five years five cases of cancer in persons under 28 years of age had occurred at the Royal Infirmary.—Dr. W. Gordon Little read a note of an original investigation undertaken by himself and Dr. Charles Harris in the Bio-Chemical Department of the Johnston Laboratories on the Influence of certain Inorganic Salts on the Solubility of Uric Acid and Biurate of Sodium. The salts used in these experiments were the chloride, bromide, iodide, fluoride, sulphate, salicylate, lactate, phosphate, and carbonate of sodium, potassium, and ammonium. The sodium and ammonium salts were found, even in small percentages, to diminish largely the solvent power of water; potassium salts, on the contrary, did not have this effect and might even increase the solvent power of water. The effect of the presence of sodium chloride in counteracting the known solvent action on uric acid of lithium, piperazin, and urotropin was demonstrated. The presence of sodium salts in the body fluids constituted the great difficulty which had to be overcome in the search for an agent to prevent the precipitation of the biurate of sodium. The paper, which was greatly appreciated by the members, was illustrated by diagrams.—Professor Benjamin Moore and others joined in the discussion.—Professor R. W. Boyce gave an exhibition and demonstration of Bones and Skulls of Ancient Egyptians. The valuable specimens shown dated back to 2300 B.C. and were in a splendid state of preservation. Osteo-arthritis was seen to be a not uncommon disease, fracture of the ulna was frequently met with, and several examples of ulceration of bone, possibly syphilitic, were shown.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on Nov. 8th, Sir William J. Collins, the President, being in the chair.—The President deplored the decease of Mr. C. H. Hopwood, K.C. (a Vice-President). He also hoped that a standing committee might be appointed from the society to keep watch and ward over medico-legal abuses and reforms.—Dr. T. Claye Shaw discussed an Obscure Form of Alcoholism involving Irresponsibility, quoting actual instances where, after alcohol had been stopped, acts were done in a state of quasi-somnambulism comparable to the occasional sequelæ of shock and stunning. He considered that punishment often acted medicinally.—Dr. Louise Appel narrated the Hindu (subjective) method of approaching the question of responsibility.—Mr. John Troutbeck held that a complete physical and mental examination should precede the trial of many prisoners. The court often convicted in ignorance.—Dr. Lewis Lewis agreed; he had known epileptics who had committed criminal acts after "recovery"; he considered business worry as the commonest cause of suicide.—Dr. F. S. Toogood found that two-thirds of the lunatics admitted into the Lewisham Infirmary were cured by a fortnight's detention therein; hallucinations might persist after delirium tremens.—The President thought that the lawyer held a statical, the medical man a dynamical view of responsibility; from extended experience he concluded that the sudden abstinence from alcohol did not precipitate delirium tremens.—Dr. Claye Shaw, in reply, said that it was not only the lawyer whose knowledge of medicine was deficient, but also the medical men have a deficient knowledge of law.—Dr. Stanley B. Atkinson enumerated Definitions of Accident and Accidental as they arose in the coroner's court, insurance policies, and Compensation Acts.—Mr. A. D. Cowburn cited cases of shock and held that fright and terror might have organic as well as functional ill-effects.—Mr. F. Thoresby said that insurance companies were much exercised, after recent decisions, as to what was an accident; he also instanced the solatium of Scots' law.—The President outlined an ascending scale of illustrations, which would culminate in the obvious accident.

LARYNGOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on Nov. 4th.—Mr. Arthur H. Cheatle and Dr. W. d'E. Emery exhibited a most interesting specimen of Actinomycosis in the Tonsil of a female child, together with bacteriological sections.—It was agreed that this was probably the second case only which had ever been recorded of actinomycosis in that region.—Several specimens of Malignant Disease in the Upper Air-passages of the Dog and Cat were shown by Professor F. Hobday and Mr. P. R. W. de Santi and an interesting case of probably Extrinsic Malignant Disease of the Larynx in a man, aged 64 years, by Dr. E. Furniss Potter. The case was unusual in the fact that it had lasted some 18 months without any glandular infection. It was looked upon as a particularly suitable case for laryngectomy.—An interesting specimen of a Foreign Body, a collar stud, was brought forward by Dr. Paterson, the foreign body having been removed by direct laryngoscopy, Killian's method, from a child, aged 12 months.—Mr. E. B. Waggett brought forward a diagnostic specimen from an Œsophageal Stricture removed by Killian's method. He pointed out that œsophagoscopy in England seemed not to be as well known as a method of diagnosing strictures of the œsophagus as it should be.—Mr. de Santi showed a case of Curious Erythema of the Soft Palate and Tonsillar Region in a girl. The question was as to the nature of the trouble. One or two members looked upon the case, though unique, as probably of the nature of angioma.—Dr. W. H. Kelson showed a case of Laryngeal Growth in a boy, aged six years, the interest of which was that the growth had been removed in the sitting-up posture by endolaryngeal forceps and deep

anæsthesia.—Mr. H. Betham Robinson showed a case of Pharyngeal Obstruction from a diaphragm which stretched between the back of the tongue and the posterior wall of the pharynx.—Dr. E. Law showed a case of Stenosis of the Trachea, ozænic in nature, and Dr. J. Dundas Grant showed a microscopic slide of an Extrinsic Laryngeal Growth, the diagnosis resting between sarcoma and fibroma.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Nov. 9th, Dr. E. S. Reynolds being in the chair and afterwards Professor J. Lorrain Smith.—Professor Lorrain Smith related some observations on the Amount of Hæmoglobin in Cases of Leucocythæmia.—Dr. W. E. Fothergill exhibited microscopic sections of two small solid Ovarian Tumours composed of minute tubular alveoli lined by columnar epithelium. These resembled in structure certain adenomata which had been found on the posterior body wall in a retro-peritoneal position, in the broad ligament, and also at the sides of the cervix uteri. They were probably derived from pronephric or mesonephric tubules distinct from those which formed the Wolffian body.—Dr. C. H. Melland described and showed specimens of Biliary Cirrhosis, &c.—Dr. W. J. S. Bythell exhibited two microscopic slides of Streptococci and Pneumococci from cases of empyema in children, the specimens being accompanied by microphotographs taken in natural colours by the Sanger-Shepherd process to illustrate the staining reactions due to degeneration of the cocci.—Other preparations were shown as card specimens.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held at the Medical Institute, Birmingham, on Nov. 9th, Mr. Wood White, the President, being in the chair.—Dr. A. S. Barnes showed a specimen of Operable Cerebral Sarcoma.—Dr. W. Allport showed a specimen of Detachment of the Retina.—Mr. C. G. Higginson read a paper entitled "The Open-air Treatment of Phthisis Fifty Years Ago."

Reviews and Notices of Books.

Handbook of Meat Inspection. By ROBERT OSTERTAG, M.D., Professor of Veterinary High School at Berlin. Translated by E. VERNON WILCOX, M.A., Ph.D., Veterinary Editor, *Experimental Station Record*. With an Introduction by JOHN R. MOHLER, M.A., D.V.M., Chief of Pathological Division, United States Bureau of Animal Industry. London: Baillière, Tindall, and Cox. 1904. Pp. xxxv.–884.

THIS volume, which is an American translation of Dr. Ostertag's well-known standard work on meat inspection, will be welcome throughout the English-speaking scientific world. Books upon meat inspection and the diseases of animals are none too numerous or thorough in the English tongue and hence the present excellent translation supplies a distinct want. It is, however, somewhat to be regretted that the last edition of Dr. Ostertag's work, which appeared in 1902, was not translated at once, although this delay cannot be said to detract materially from the value of the present volume. That the translation is the work of an American is soon apparent to the reader from the use of such spelling as "color" and "odor" and the employment of "aside" in place of "besides," and so on.

Dr. Mohler's introduction, which deals with the history and present state of meat inspection in the United States, is highly instructive and it shows among other things how admirably the Americans have adapted themselves to the European demands in the direction of the inspection of meat and the microscopical examination of the pork intended for introduction into Germany. The advances which America has made in the matter of both ante- and post-mortem examination are due almost solely to the work of the Bureau of Animal Industry, of which Dr. D. E. Salmon is the distinguished chief.

The first chapter of Dr. Ostertag's book furnishes a general discussion on meat inspection and in it the author refers to the pertinacity with which the Germans, notwithstanding the numerous and disastrous outbreaks of trichinosis which have occurred, still persist in eating uncooked pork, and he quotes Gerlach to the effect that "there is no more convincing proof of the everlasting unreasonableness of man in certain things than that furnished in trichinosis." In discussing the foods of different nations Dr. Ostertag observes that "meat is indispensable for the majority of human beings if they are to remain capable of a normal amount of work," but it is not quite clear whether the author is here referring to Europe alone or to the world at large. If to the latter the statement would appear to require some qualification, as, presumably, something like 50 per cent. of the population of the world subsist mainly upon a vegetarian diet, and a noteworthy discussion on this question in its social aspects is to be found in Buckle's work on the "History of Civilisation." It is, however, interesting at the present juncture to record that, according to the work before us, the consumption of the meat of domesticated animals was forbidden in Japan after the introduction of Buddhism in the seventh century A.D. but that the slaughter of animals was resumed after the introduction of foreigners into Japan. At first only the foreigners ate meat but the Japanese have gradually accustomed themselves to animal food and in the "eighties" it was introduced into the Japanese army. There is so much in this book which is full of interest that it is difficult to desist from quoting freely, more especially in relation to that part of the volume which deals with the history of meat inspection.

The chapter concerned with the laws regulating the traffic in meat in Germany is, although of main interest to dwellers of the Fatherland, helpful in showing how much we in this country may still learn from Germany in this respect. The "Art of Butchering" is also well set out and there are some capital diagrams showing the several parts of the carcasses of oxen, sheep, and pigs, while the subject of the inspection of imported meat, which is of great importance to the English reader, is very fully treated of in the present volume. The work would not be of German origin were not the chapter on Animal Parasites a very full one, some of the plates in this section being excellent. In the section on infectious diseases the description of tuberculosis is probably the most helpful and it is interesting to note that the increase of tuberculosis among hogs in North Germany is attributed to feeding them on the raw products of the creamery and more particularly to the use of the deposit collected from the "separators" after the separation of the cream from the milk has been carried out. In Denmark it has, we believe, been the custom for many years to burn such refuse. As regards the communicability of bovine tuberculosis to man Dr. Ostertag is disinclined to go so far as Professor Koch and he evidently thinks that steps should be taken to prevent such an occurrence. The subject of Botulism naturally receives full treatment at the hands of Dr. Ostertag but we are sorry to find that the few paragraphs which are devoted to the subject of oyster-borne disease are sadly out of date. Apparently the author accepts the view of Bardet that "all oysters are diseased during the summer," a statement for which there is certainly no adequate foundation in fact, while no reference whatever seems to be made to the possibility of contracting enteric fever from eating oysters. The section which deals with the colouring of meat has special concern for the consumers of German sausages, and that on the preservation of meat has a world-wide application.

There is no doubt that this book, which is the standard work on the subject, should be in the library of every medical officer of health who takes an interest in his work. The near future will see a very great and general advance in the control of the food-supplies of the people and books

of this description are much needed. Perhaps this translation may stimulate some medical officer of health to write a work intended more particularly for English readers.

The Surgery of the Diseases of the Appendix Vermiformis and their Complications. By WILLIAM HENRY BATTLE, F.R.C.S. Eng., Surgeon to St. Thomas's Hospital, formerly Surgeon to the Royal Free Hospital, Hunterian Professor of Surgery at the Royal College of Surgeons of England, &c.; and EDRED M. CORNER, M.B., B.C. Cantab., F.R.C.S. Eng., Surgeon-in-Charge of Out-patients to St. Thomas's Hospital and Assistant Surgeon to the Hospital for Sick Children, Great Ormond-street, Erasmus Wilson Lecturer at the Royal College of Surgeons of England, &c. London: Archibald Constable and Co. 1904. Pp. 208. Price 7*s.* 6*d.* net.

THE appendix vermiformis and its diseases are known to all: even the comic papers have published remarks, doubtlessly intended to be humorous, on the operation for appendicitis; they tell how a man who had had his appendix removed found it necessary to record the fact in indelible characters on his abdominal wall to prevent another abdominal section. We hear, too, from New York of dining parties composed only of those who have undergone the operation of removal of the appendix. In fact, all indications go to show that the appendix has succeeded in obtaining world-wide recognition. Yet this reputation is really modern, for until some 20 years ago few even amongst the medical profession were in the habit of considering the appendix as of much importance. It is true that many years previously it had been recognised by a few that a large number of abdominal inflammations began in the neighbourhood of the cæcum and its appendage but no special name had been given to an inflammation of the cæcal appendix and that in itself is a strong indication of the absence of a true recognition of its real importance. Of recent years, however, the aspect of the matter has changed and there is no small risk of the appendix receiving an undue share of attention, for some surgeons whenever they open the abdomen take the opportunity of excising the appendix. This naturally brings us to the question whether the appendix is a useless, a worse than useless, developmental remnant or a functional organ. In the work before us we find a very definite answer to this question. The authors maintain that it is certainly functional and consider that it most probably assists in absorption. They hold that it is not a vestigial structure in man but a specialised part of the alimentary canal.

The medical aspect of inflammation of the appendix has received much recognition but it cannot be denied that at the present time the surgery of the disease is by far more important and therefore this book should be especially useful, as it appears when sufficient time has elapsed since the commencement of the era of appendicectomy to enable surgeons to have attained to what may be looked upon as established ideas on the subject. The vast importance of inflammation of the appendix depends chiefly on the close connexion of the organ with the peritoneum. Any inflammation in the appendix is almost certain to spread to the adjoining serous membrane and one form or another of peritonitis will then result. It is this great risk of infection of the peritoneum which justifies the surgeon in intervening in severe or recurrent cases of appendicitis, for if the case is left a cataclysm is unavoidable. The authors of the work before us have provided an excellent account of the pathology of appendicitis; the mode in which the inflammation starts and the way in which the results are brought about are fully described, and we can recommend all who are not clear as to the pathology of the disease to read this chapter. The section dealing with the various methods of operating is good and it is of interest to see that the authors have a novel method of dealing with the stump after the removal of the appendix. By a special clamp the base of the appendix is crushed and all the coats give way except the peritoneum which is then tied with a silk ligature. The authors claim that it is the safest way of removing the appendix.

The differential diagnosis of acute appendicitis from peritonitis is often far from easy. The greatest skill and experience may be required to distinguish an inflamed appendix from other conditions that simulate it; the authors deal very fully with this subject and this is perhaps the most valuable chapter in the book. The complications of appendicitis are also considered and the subject of the relation of the disease to life insurance is discussed.

We have read this work with much pleasure; here and there indeed we have met with statements about which there is room for a difference of opinion, but taking it all in all we may confidently say that a better treatise on the surgery of appendicitis does not exist.

Sleeping Sickness. By Professor ALDO CASTELLANI, Director of the Bacteriological Institute, Colombo.

IN this small brochure Professor Castellani tells us all the main facts concerning this terrible disease, in the discovery of the true etiology of which he has played so prominent a part. After a brief account of the various previous researches concerning the disease and of the manner in which of late it has extended its ravages Professor Castellani enters into the etiology. It has been held to be a peculiar form of malaria, a variety of beriberi, an intoxication, and a form of sunstroke. It has been considered to be due to the anguillula intestinalis and the ankylostoma duodenale. Manson suggested that the filaria perstans might be the cause but subsequent researches by Low and Christy negatived the latter possible theory. Different forms of germs have likewise been held to cause the condition, the hypnococcus being discovered by the Portuguese Commission. Professor Castellani, however, held this streptococcus infection to be merely a secondary one. He had since November, 1902, when he began to use a special technique for the examination of the cerebro-spinal fluid, frequently observed a trypanosome. Of 34 cases of sleeping sickness he found trypanosomes in the cerebro-spinal fluid in very nearly 70 per cent. of the cases. He also discovered them in the blood.

We next come to an explicit account of the clinical features of the disease, its pathological anatomy (with which the name of Mott is associated), its diagnosis and prognosis. Concerning the treatment the only means available to us are the preventive measures, no remedy having as yet been discovered of any avail when once the disease has started. The tsetse fly incriminated must be destroyed by clearing the jungles near the native villages where they are met with in swarms; the fly zones should also be avoided in building new villages and European settlements. Another means would be to try with all due precaution the immunisation of natives who have not yet caught the disease by first passing the trypanosome of sleeping sickness through many species of animals until it had lost most of its virulence. Then attempts to immunise monkeys should be made and if the results were good the immunisation might be tried on human beings also. The work is illustrated by some excellent plates.

Medical Electricity: a Practical Handbook for Students and Practitioners. By H. LEWIS JONES, M.A., M.D. Cantab., F.R.C.P. Lond., Medical Officer in Charge of the Electrical Department, St. Bartholomew's Hospital; President of the British Electro-Therapeutic Society, &c. Fourth edition, revised and enlarged. London: H. K. Lewis. 1904. Demy 8vo, pp. xvi.–536. Price 12*s.* 6*d.* net.

THE issue of the fourth edition is evidence of the popularity of this well-known work. Since the appearance of the third edition much new ground has been

explored and old ground more thoroughly investigated In all respects the present volume has been brought thoroughly up to date. Comparing it with the previous edition the main difference consists in the new material added, there being very little, if any, matter in the third edition that could be deleted without impairing the value of the work. The general arrangement is the same as formerly. The utilisation of the current from the mains and high-frequency currents have been dealt with in special chapters. A careful perusal of the work clearly shows that Dr. Lewis Jones has exercised the greatest care in its preparation; apparently nothing has been left undone to insure the greatest accuracy in any statement that is made. For this reason alone it is entitled to be considered a standard work on the subject as well as a text-book of the first order. In the chapter on the Induction Coil some very interesting oscillograph tracings of induction coil currents are shown and an explanation is given why the current from some coils is more painful than that from others. This is a very important matter in electro-diagnosis and electro-therapeutics, especially when dealing with children who constitute no small proportion of the patients requiring electrical treatment.

In the chapter on the Utilisation of the Electric Light Mains, the use of rectifiers, both mechanical and chemical, is fully gone into and this will be appreciated by those to whom only an alternating supply is available. Directions are also given to enable anyone to construct a simple chemical rectifier and thus to use the alternating current for many purposes for which a constant current is required. An important part of this chapter is that relating to the dangers of using the electric lighting mains, which is a point of the first importance in these days of increasing pressures. If the author has erred here at all it is in having treated this part too briefly.

The chapter on High Frequency deals with the subject in a concise yet thorough manner. It embraces all that is definitely known about high frequency, and those who wish to acquaint themselves with the present state of our knowledge of this subject cannot do better than refer to this work. The chapters on the Electric Bath, Physiology, Diagnosis, and General and Special Therapeutics have been revised and added to, while that relating to x-ray work has been greatly enlarged so as to bring it into line with recent developments in this important adjunct to diagnosis and therapeutics.

LIBRARY TABLE.

Observations on the Hæmatozoa of Vertebrates in Ceylon. A Preliminary Note. By ALDO CASTELLANI, M.D. Florence, Director of the Bacteriological Institute, Colombo; and ARTHUR WILLEY, F.R.S., Director of the Colombo Museum. Pp. 92.—The authors of this paper, which appeared in *Spolia Zeylanica*, Vol. II., Part VI., August, 1904, first of all describe a new species of filaria, to which they give appropriately the name of filaria Mansoni, found in the Brahminy lizard. Next, the occurrence of trypanosoma Lewisi in house rats is recorded, 25 per cent. probably of adult rats being affected. The authors record some brief notes on the action of various chemical substances on the organism, and of all the stains methylene blue acted most effectively, a 1 per cent. solution at once stopping the movements. This would suggest the inoculation of methylene blue in animals and man affected with trypansomiasis as methylene blue is little poisonous. Manson and Low, however, had no good result in a case recorded this year. Observations in connexion with the sporozoan parasites conclude the paper. Here we find valuable remarks on the hæmamœbidæ, such as the halteridium Danilewskyi, the hæmocystidium Simondi, and the hæmogregarinidæ, the life-history of the last being minutely described. The paper will well repay study by those interested in the subject.

The Blind Man's World. An English Version of "Entre Aveugles": Advice to people who have recently lost their sight. By EMILE JAVAL, Directeur Honoraire du Laboratoire d'Ophthalmologie de l'École des Hautes Études. Translated by W. ERNEST THOMSON, M.D. Edin., Surgeon to the Glasgow Eye Infirmary. London: George Pulman and Sons. 1904. Pp. 158. Price 3*s.* net.—This is the translation of an important work which should be in the hands of those who have the comfort and well-being of the blind intrusted to them. Dr. Javal became suddenly blind at the age of 62 years and one of his first anxieties was to ascertain what he could do to make life tolerable. He failed to find any collection of references to help him. In this volume he considers all the problems of life from a blind man's point of view. From its perusal the ophthalmic surgeon may gather much advice which he will find of service to his unhappy patients. The author beseeches his *confrères* to resist the tendency to allow their patients to be amused hopefully by strychnine injections, electrization, or useless internal remedies. He says that "the consolation of an incurable patient by treatment of a placebo nature merely prevents him arranging his life with proper foreknowledge of the fateful issue. It seems more humane gradually to prepare the patient for his lot." The translator writes that "the work of translation has given him much pleasure; nay, more, it has given him an insight into many things of which he was previously ignorant. It has, in fact, introduced him to the blind man's world" We strongly recommend this book to all those who have the care of the blind; those who have had the misfortune to lose the priceless blessing of vision can learn much from it if it be read to them by a sympathetic companion.

Urine Examination Made Easy: A Method of Examining Urine with the Common Tests fully Described. By THOMAS CARRUTHERS, M.B., Ch.B. Glasg. London: J. and A. Churchill. Pp. 32. Price 1*s.* 6*d.* net.—This little book comprises notes prepared in connexion with the teaching of the examination of urine to the nurses in the City of Glasgow Fever Hospital. The author suggests that though it is "intended primarily for the use of nurses, it may possibly be of service to others." For many of the facts the author is indebted to the chapter on urine in Dr. J. Finlayson's "Clinical Manual." No less than six of the pages out of the 32 are blank ones on which the author proposes that the nurses should add notes of further tests. The book is carefully compiled and well arranged and should be of value to students, but why should nurses be required to examine the urine chemically? Surely this is not a nurse's work. However, p. 4, "How to Prepare a Specimen," and the section on the physical characters may well be read and the methods recommended practised by all nurses. On p. 13, under "Method," there is the omission of an important word; doubtless this is a printer's error but it should not have escaped a careful reader of proofs.

The Modern Nursing of Consumption. By JANE H. WALKER, M.D. Brux., Physician to the New Hospital for Women, London, and Medical Superintendent of the East Anglian Sanatorium, Nayland, Suffolk. London: The Scientific Press, Limited. 1904. Pp. 47. Price 1*s.* net.—In writing these short lectures on the modern nursing of consumption Dr. Jane Walker has treated the subject entirely from a nursing point of view. Her object is to emphasise the differences which exist in the modern treatment and nursing of consumption compared with the treatment and nursing of other diseases and of the same disease in old days. She hopes that this small handbook may lead more nurses to take up a special branch of their profession, "which, judging from the difficulty now found in obtaining nurses trained in the open-air principles, is at present rather neglected." We think it will prove to be a useful little book to those engaged in nursing both the wealthy and

the poorer class of sufferers from pulmonary tuberculosis. Possibly the lecture on Disinfecting might be improved by more specific directions being laid down and mention being made of the most modern forms of sputum cups, with hints as to where to obtain them.

Guide Pratique et Formulaire pour les Maladies de la Bouche et des Dents, suivi du Manuel Opératoire de l'Anesthésie par la Cocaine en Chirurgie Dentaire. By G. VIAU. Third edition. Paris: F. R. de Rudeval. 1904. Pp. 522. Price 6 francs.—This useful work consists of two parts—the first a dictionary of the diseases of the teeth and the mouth and the second an account of cocaine as an anæsthetic in dental surgery. The different subjects are well and carefully dealt with and numerous prescriptions are given for use in the treatment of the various diseases. Over 100 pages are devoted to cocaine, a full history of the drug being followed by an account of its pharmacology. The physiological properties are next discussed with the mode of administration and the accidents that may occur during, or follow, its use. To the busy practitioner this book should prove of utility.

Looking Back.

FROM

THE LANCET, *SATURDAY*, NOV. 18, 1826.

FOREIGN DEPARTMENT.

ANATOMY.

Paper on the Glands situated in the Head of the Serpent. By Y. F. MECKEL, Professor of Anatomy and Physiology, at the University of Halle.*

THE glands in the heads of serpents are particularly interesting from the poison which they secrete. They have been, during the last few years, the object of the researches of several anatomists, especially of Tiedemann, Cloquet, Rudolphi, and Desmoulins, who have described some with greater or less accuracy, and have confounded the others. Some of them have also been described by preceding observers, as Charas, Redi, Ranby, Fontana, and Cuvier; the discrepancy that exists between these reports has induced Meckel to examine the subject with the attention which it merits, and to publish the results of his investigations.

Five pairs of glands are found in the heads of serpents—but not, however, in all the species; of these glands the most constantly observable is a small elongated and rounded one, situated in the inferior part of the mouth near its anterior extremity, and which opens at the sheath of the tongue. This has been on just grounds considered as analogous to the sublingual gland in other animals.

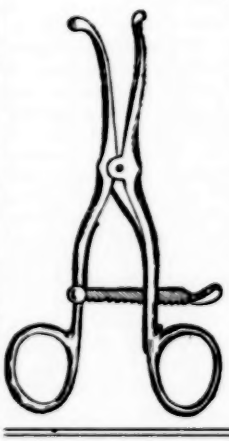
The most remarkable, though the least common, of the glands, are unquestionably those which secrete the poisonous fluid. These are always situated behind and beneath the eyes, above the upper jaw, completely surrounded and invested by a very strong muscle, which must be dissected off in order to get a view of them. Their form is elongated, their texture lamellated, presenting internally a cavity. They are, moreover, distinguished from all the other glands by their excretory duct. This is of considerable size; its direction is from behind forwards, along the external surface of the upper jaw, and finally opens immediately before, and above the venomous tooth. It is contained within a membranous sheath, which invests it in such a way, that the poison is directed into the superior aperture of the tooth. The situation and peculiar manner in which these glands are invested by the thin muscular covering, will in some degree account for their having eluded the search of the older anatomists. Charas appears to have been acquainted only with the lachrymal and ocular glands, at least it is to these only that his descriptions apply. He says that they are situated in the posterior part of the orbits, behind and beneath the eyes; that they are composed of several lobes, partly covered by the temporal muscle, and that they are nearly of the same size as the eye. He appears, however, to have observed the excretory duct of the poisonous glands, but he has made a mistake in describing it, as being connected with, or proceeding from, the glands just described. As far as can be judged by his figures and descriptions Ranby (Phil. Trans. No. 401, p. 378) appears to be the first who examined the venomous gland itself, for he described and delineated a gland in the rattle snake of the size of a pea, placed precisely in the situation of the poison gland; but he could not have observed its excretory duct, for he says that the ducts of such small glands can never be *distinctly* seen; but he conjectured that it opened between the upper lip and the superior maxilla. He agreed with Charas in the opinion that these glands do not secrete the poison; but the experiments of Redi have long since set that question at rest, and have demonstrated that they are the true secretory organ of the poisonous fluid.

Fontana is the first who described with clearness and precision the secretory apparatus of the poison. And then it was Russell, if I am not deceived, who also gave accurate descriptions and plates which I saw a long time ago at Paris and Gottingen, but which, unfortunately, I have not now before me. M. Cuvier has ably exposed this point. P. Tiedemann has also seen with precision, in the naja and vipera berus, all the parts in their connexion. The descriptions and drawings of P. Rudolphi are exact, but the representation of the orifice of the excretory duct, and its relation with the poisonous tooth, are wanting. Moreover, if I attribute to Fontana the complete discovery of the apparatus for the secretion of the poison, I am obliged to differ from P. Rudolphi, who thinks that he was the first who had shown the course of the poison, from the superior opening of the tooth to its lower aperture. This discovery belongs to the excellent Tyson, and has already been confirmed by Ranby. The first of these two authors says expressly, that he has found in all these teeth, very near the root, a large opening, and towards the point a septum always very distinct; that the tooth is crossed between these two openings, which he had remarked several times, by lightly pressing the gums with the fingers; by this pressure, the poison had been distinctly seen extending from the tooth, and the slit in it. Ranby describes the two openings, and the cavity, as Tyson; and he adds that the superior, probably, receives the poison, (secreted, according to him, in the sheath of the tooth,) whilst the the lower ones transmit it into the wound.

These expressions are, undoubtedly, less precise than those of Tyson; but the words of the latter clearly indicate that he first discovered the passage of the poison across the tooth.

* Meckel's Archiv, April, 1826.

New Inventions.



A SELF-RETAINING TRACHEAL DILATOR.

THE accompanying illustration shows a tracheal dilator that I have recently had made for me by the Holborn Surgical Instrument Company. By means of the rachet the trachea can be dilated to the required extent and the instrument is self-retaining, allowing the surgeon to use both his hands freely during the operation.

DOUGLAS DREW,
Senior Surgeon to the North Eastern Hospital for Children, &c.
Harley-street, W.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The Carmichael prize of £120 for the best essay on the State of the Medical Profession in its Different Departments has been awarded by the College to Dr. Michael Foster Reaney of Manchester.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 19, 1904.

Vagrancy and Small-pox.

THE prevalence of small-pox during the past few years has again directed attention to the important part played by the habitual vagrant in disseminating that disease. There is no evidence that the physical condition of the tramp and the street loafer, though often of a low standard in consequence of his origin, mode of life, and surroundings, renders him an individual specially susceptible to small-pox. But his opportunities of contracting the disease are far more numerous than those of the ordinary citizen, and if he goes his way while suffering from a mild attack of small-pox—a not infrequent occurrence—he often spreads the disease broadcast in public-houses, casual wards, Salvation Army shelters, common lodging-houses, and other places to which he resorts. The mischief done in this way was abundantly illustrated in London two years ago and it is certain that had it not been for the energetic watchfulness which the medical departments of the London County Council and metropolitan borough councils then bestowed on persons of this class the extent of the recent epidemic in the metropolis would have been much greater than it was. Since 1902 small-pox has spread to many centres in the provinces and it has been found time and again that the first importation of the disease into a district has been attributable to tramps, that subsequent importations have been due to the same cause, and that within the invaded district the loafer and the wastrel have been largely responsible for the continued prevalence of the epidemic. This aspect of small-pox epidemics in provincial centres has been carefully studied by Dr. HENRY E. ARMSTRONG of Newcastle-on-Tyne who recently collected a mass of information on the subject from various parts of the country which he incorporated in a valuable report published a few months ago. On the initiative of Newcastle the London County Council decided to invite representatives of county councils and county boroughs and of other authorities concerned to a conference to discuss vagrancy in relation to infectious disease. This conference was held on Nov. 10th and the importance of the subject was emphasised by the large and representative attendance and by the interest taken in the proceedings. A long series of motions was adopted and a committee was appointed to place the views of the conference before the Local Government Board and the inter-departmental committee on vagrancy, and also to obtain Parliamentary support.

The members of the conference evidently held the opinion, which few will be inclined to dispute, that the rights of the habitual vagrant to personal liberty may be set aside without hesitation where questions of public health and public convenience are concerned. They ask that powers of compulsion should be given to detain him when reasonably suspected to be liable to convey infectious disease, to vaccinate or to revaccinate him, to cleanse his person, and to disinfect his clothing. They ask also that similar powers should be available in respect of inmates of common lodging-houses, whether vagrants or not, and they demand powers to enable the sanitary authority of a district to require the keeper of any common lodging-house to refuse the admission of new lodgers or, if necessary, to close the lodging-house altogether. Even in present circumstances some of these measures (for example, in regard to common lodging-houses) are often adopted by medical officers of health who, with the support of their councils, manage to secure all that is needed by informal action or by voluntary agreement. But it may be assumed that compulsory powers would greatly strengthen the hands of medical officers of health in these directions and if this be so a strong case for legislation has evidently been made out and the proposals of the conference should receive general support. Local sanitary administration being what it is, however, it is to be feared that if all local authorities were possessed of the powers asked for the efficiency of their administration would continue to be very unequal. Recent experience in the provinces has shown how much every sanitary district is obliged to depend on the action of its neighbours for protection against the invasion of small-pox. As a practical matter, therefore, it is well to realise that control of vagrants in epidemic times can be at best imperfectly secured by mere individual action of sanitary authorities and boards of guardians. Uniformity of method and practice is essential for the purpose and we believe that some system for coördinating the work of local authorities in large areas would be necessary in order to insure success. In this respect we think that the suggestion made by Dr. J. S. CAMERON of grouping counties for the purpose of combined action deserves careful consideration.

The conference did a further service by adding the weight of its authority to the demand for investigation of the causes of vagrancy in this country and of the methods best suited to its repression. It is stated, and was affirmed by the conference, that habitual vagrancy has of late years increased to an alarming extent. The definition of a habitual vagrant is difficult and we suspect that accurate statistical information on the prevalence of vagrancy is not easy to come by. But whatever the figures may be it is certain that the tramp nuisance in many parts of the country is now a serious one. In our present state of law and administration nothing appears to deter the confirmed tramp. Usually he seems to have no objection to the short sentences of "hard labour" which he so frequently earns: he is fed in the prison, the labour is often lighter than it is in the casual ward, and he is soon at large again. Anthropologists and sociologists may classify the tramp as a reversion to the nomadic type, as a "degenerate," as feeble-minded, or in any way they please, but the fact remains that he is an unmitigated nuisance and in one way or another a continual source of expense to the country. Moreover, one of the strongest objections to the habitual vagrant is the enormous difficulty which he creates when any organised attempt is made to assist the genuinely unemployed or the man who is travelling *bonâ fide* in search of work. Abroad the vagrancy question has received a great deal of attention in

recent years. Various methods have been devised, as in Switzerland, for helping on his road the man genuinely in search of work and for severely punishing the loafer and the beggar. "Labour colonies" have been established in Germany and Belgium, where large numbers of would-be vagrants are detained, under greater or less compulsion, and are encouraged or obliged to perform simple manual work appropriate to their capacities. One of these, the Merxplas colony in Belgium, which deals with some 5000 men, is said to be in many ways remarkably successful. It is not claimed that this colony will admit vagrants and beggars and return them to the world transformed into useful citizens. But they are prevented from being a public nuisance and they live a life of some utility at a less cost to the community, it is said, than is entailed by our British methods or rather by our lack of methods. In this country the conditions of labour and labour markets, of police supervision, and of local government differ so greatly from those which obtain on the continent that it would be hardly reasonable to demand the immediate adoption here of labour colonies and like systems on the ground that they have apparently had good results in Belgium or Switzerland. But it is evident that careful study of continental experience is essential in order to devise a practical scheme for dealing with vagrancy and the declarations of the conference will in this sense command general assent.

Whatever measures may ultimately be taken to control habitual vagrants, it must not be forgotten that, as regards small-pox, these undesirables form only a portion of the migratory populations which in epidemic times are liable to spread the disease. If all tramps and loafers could be placed in suitable colonies it would still be necessary, in the present state of our vaccination law, to guard against the spread of small-pox by the movements of casual labourers, navvies, hawkers, travelling showmen, harvesters, hop-pickers, fruit-pickers, and many other persons whose wanderings it is impossible to restrict but who live under conditions often very similar to those of the habitual tramp. Germany owes her immunity from small-pox not to absence of tramps or to labour colonies but to her revaccination system. If we cannot have the German system here we can at least see that in times of epidemic small-pox the sanitary authorities concerned in the suppression of the disease are provided with every possible facility for promoting vaccination. From this point of view it is to be regretted that the conference, by deciding to limit its discussion strictly to vagrants, was deprived of the opportunity of recording any opinion on the unsatisfactory condition of the present vaccination laws in their application to epidemic small-pox.

The Future Supply of Midwives.

A MEETING was held on Nov. 4th at the Westminster Palace Hotel, by the Association for Promoting the Training and Supply of Midwives, at which the ARCHBISHOP of CANTERBURY presided and at which many persons who take an interest in the working of the Midwives Act, 1902, were present, including representatives of a large number of local authorities. As will be seen from our report of the meeting in THE LANCET of Nov. 12th, p. 1373, business-like speeches were made by persons able to estimate the importance of the problem. The Midwives Act came into operation on April 1st, 1903; any woman then in practice as a midwife and bearing a good character can, without further qualification, be placed upon the roll of midwives kept by the Central Midwives Board if she claims her right to be registered before April 1st, 1905. After that date no woman not upon the roll may use the title of midwife or any name or title implying that she holds the certificate of the Board, and from and after April 1st, 1910, "no woman shall habitually and for gain attend women in childbirth otherwise than under the direction of a qualified medical practitioner unless she be certified." All women not in practice as midwives before April, 1903, must undergo the training and pass the examinations prescribed by the Central Midwives Board before seeking to obtain its certificate and admission to the roll of which the Board is the custodian. Three-quarters of the women already in practice as midwives have not sought registration, owing to a distaste on their part for the regulations and restrictions imposed by the Board in the interest of the parturient poor; and as these, though they may practise without using the name of midwife for the present, will have to cease from doing so in a little more than five years' time the need for considering the question as to who are to replace them may fairly be considered imminent, and the topic is one of considerable interest to a large section of the public as well as to the medical profession.

In these circumstances a motion was proposed by Dr. C. J. CULLINGWORTH, a member of the Central Midwives Board, which was supported by its chairman, Dr. F. H. CHAMPNEYS, as well as by other speakers, to the effect that urgent need exists in this country for a supply of properly trained midwives who, in working in conformity with the provisions of the Midwives Act, 1902, will help to reduce the present high mortality of lying-in mothers and their children amongst the poor. The motion, which ended with an expression of goodwill towards the Association for Promoting the Training and Supply of Midwives, was carried and is, it is to be hoped, the preliminary to practical steps towards the fulfilment of a task which is not likely to be a light one. The Midwives Act is so framed that it is beyond question capable of achieving one very desirable object. Under it the practice of midwifery by the dirty and incompetent Gamp to the danger of her patients should be rendered impossible. Whether her place will be, or can be, filled by the trained and efficient person whom it is the duty of the Central Midwives Board to examine and to register is another matter. A certain number of women capable of receiving and assimilating the necessary instruction, and not altogether dependent on their earnings for their support, will no doubt be found, and the charitable will be able to provide for a few others incomes equal to their requirements, but when it is considered that 60 per cent. of the childbirths annually taking place in the country have been attended by women only it seems too much to expect that the benevolence of the wealthy will provide more than a small proportion of the aid required. The bulk therefore

of the future midwives who come forward for training as such will have to do so relying upon their earnings in the calling which they intend to adopt being wholly or nearly sufficient for their maintenance, and if the chances of making a decent living as a midwife are small the number of those seeking it will be small also. The handy woman who has attended confinements hitherto has in a great number of instances either done so in order to supplement her earnings from other sources, or those of her husband, or if she has been principally a midwife has, nevertheless, had other occupations as well. The woman who has gone through the necessary training imposed by the Central Midwives Board will not belong to this class. She will not go out charing or take in washing in the intervals between confinements and she will not be able to undertake other nursing, as a rule, without the risks of interfering with her business as a midwife.

These facts bring the public face to face with a position which must have been anticipated by those who read our numerous articles upon this difficult question before the passing of the Act. To the medical man in general practice midwifery among the poor represents an arduous and ill-paid portion of the duties which fill his days and often his nights. There was little or no pecuniary motive at the bottom of the dislike which many practitioners felt, and feel, towards the State registration of midwives, and no medical man will envy the midwife in her attempt to live by midwifery alone. The training and supply of midwives, especially the keeping up the supply of candidates, is proving a more costly and difficult operation than had been anticipated by the promoters of legislation. To the work of the Association for Promoting the Training and Supply of Midwives sympathy will doubtless be extended. Unless its efforts are successful the working of the Midwives Act will be seriously jeopardised.

Drink and Labour.

MR. JOHN BURNS, M.P., L.C.C., has lately embarked on an undertaking in which it is impossible not to wish him the most signal and complete success. It is an endeavour to bring home to the working and artisan classes of this country some definite idea of the suffering and degradation which are entailed upon them even by the use, and necessarily still more by the abuse, of intoxicating drinks. Mr. BURNS's latest effort in this direction was by the delivery of a lecture, on Oct. 31st, in the Free Trade Hall at Manchester, to a large working-class audience; and he was not wanting in the courage of his convictions. The energy of his language, indeed, almost suggests comparison with that in which King JAMES I. denounced the practice of smoking tobacco. This was, he said, "a custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs, and in the black stinking fume thereof nearest resembling the horrible Stygian smoke of the pit that is bottomless." "The tavern," says Mr. BURNS, "has for centuries been the antechamber to the workhouse, the chapel of ease to the asylum, the recruiting station for the hospital, the rendezvous of the gambler, the gathering ground for the gaol. Alcohol pollutes whatever it touches. It enervates where it does not enslave. It destroys slowly what it does not degrade quickly. For the individual it is a malignant disease, for the community it is a murrain, for the nation it has become a self-inflicted obstacle to all phases of progress. Drinking is bad enough in the prosperous, but on the poor it is an additional load, piled upon their own backs too often by their own hands, and nearly always at the time they are least able to bear it. From their strength as a class, from their powers of endurance as individuals, and from their capacity as craftsmen it is a never-ending drain. It irritates where it does not brutalise, and makes for discord, strife, and bitterness, where calmness, sobriety, kindness, and decency should prevail. It undermines manhood, enervates maternity, and dissipates the best elements of human nature. As was said of it by Lord BROUGHAM, it is the mother of want and the nurse of crime." The indictment framed in these opening passages of the lecture is maintained in the sequel and Mr. BURNS adduces pages of statistics and of tables, of the kind only too well known to us, in order to exhibit in detail the consequences which he had previously described in outline. His materials of this kind were perhaps a little too abundant, and he sometimes retraced his steps in a manner not conducive to the perfect clearness of the picture which he intended to display. If delivered as printed, the length of the lecture must have been such as to make no small demand upon the patience and the attention even of an educated audience. Its influence, we think, would depend less upon statistics than upon the vigour and the full conviction of the speaker, coupled with the force attaching to his example. Mr. BURNS declared himself to be "a life abstainer from intoxicating liquor," and said that his own knowledge of drunkenness consisted in being always sober. He stood before his hearers as the object lesson in his own sermon, as the man of their own rank who had raised himself to be a member of the legislature and whose life has been largely devoted to helping others to follow in his footsteps.

When he approached the subject of a remedy for the evils which he had described Mr. BURNS had little more to say than to recommend the practice of personal abstinence and the steady diminution of the number of houses licensed for the sale of drink. He pointed out that Waterford has a licensed house for every 78 persons in its entire population, and that Battersea has one for every 650, with the coincidence or the result that the arrests for drunkenness during a year were 53 per 1000 of the inhabitants of the former place and less than 5 per 1000 of those of the latter. On the basis of this and similar evidence from other places he poured scorn, probably with perfect justice, upon the common contention that drunkenness is not increased by facilities for drinking; and he evidently looks forward to a progressive diminution of such facilities as an important measure of protection for the man who is too feeble or too self-indulgent to protect himself. He did not glance at the two chief facts which make for drunkenness in this country, the first being the importance attached by Chancellors of the Exchequer, of whatever party, to the large revenue which is easily derived from drink and which, if it were diminished by any important increase of temperance, would have to be replaced by the imposition of new taxes which might easily become sources of unpopularity to the Ministry imposing

them. The second fact of similar tendency is the self-protective organisation which renders the "trade" alike valuable as a collective political supporter and formidable as a collective political adversary. We are accustomed to hear from the Opposition eloquent denunciations of the subserviency of the Ministry to "King Bung," but no rational person entertains the smallest doubt that the Opposition, if in power, would be just as subservient in its turn. Both parties alike can entrench themselves behind the unassailable position that the drink traffic has been brought to its present condition by enactments which, on the whole, were correct expressions of the public opinion of the time at which they were passed and that anything which could be described as a measure of confiscation would be an unpardonable and impolitic assault upon the rights of property. The drink trade is the creation or at least the foster child of the law and it has been the milch cow of many successive governments. It would be impossible, with any regard for national honesty, to deprive its members of the status which they have been permitted or assisted to acquire.

We will venture upon a practical suggestion. Mr. BURNS has shown beyond dispute his complete recognition of the evils, both to the community and to the individual, which spring not only from intemperance but even from the habitual consumption of intoxicating liquor. He is deservedly a great power among trade unionists and he might probably bring his power to bear in the direction of creating among the working classes a public opinion favourable to abstinence. It surely would not be impossible for one or more of the great trade societies to revise their terms of admission in the direction of rendering them more favourable to abstainers than to others; and, if this were done, as it has been done by some insurance associations, there can be no doubt that the comparative immunity of the abstainer class from illness and accident would soon justify the rulers of such a society in proceeding a step further, and ultimately in requiring abstinence as a condition of membership. It would surely be also possible to form an alliance between one or more trade societies and a sufficient number of large employers, an alliance of such a kind that only abstainers should be employed at the works to which it applied. If this were done, the artisan classes would speedily be furnished with abundant evidence of the effect of abstinence in promoting comfort. The workers at the abstaining shops would afford perpetual testimony to the advantages of the system and their superior position, more especially with regard to domestic comfort and happiness, but also as measured by the quantity and quality of their output, could not fail to exert a powerful effect upon their comrades. Mr. BURNS knows the working classes even better than we can pretend to do; but few medical men are entirely unacquainted with their tendencies and peculiarities and we feel some confidence that measures of the kind described might be successfully adopted. In the character of outspoken friends we would make two more suggestions. Among the evils due to drink which Mr. BURNS did not enumerate there are at least two conspicuous ones, the personal uncleanliness of the British workman and the undeveloped state of his sense of duty to his employer or to his country. Nothing approaching to the dirtiness of the average English artisan and of his wife and family is to be seen in any other civilised country and the establishment of an abstaining workshop might well so increase the self-respect of those employed there as to lead them to require the same facilities for washing and for changing working clothes that are almost universally afforded in America. It might lead also to the development of a higher degree of moral sense than now commonly prevails and to a recognition that scamped work and neglect of duty are not only disgraceful in themselves but that they tend to a steady deterioration of the national industries in the face of constantly increasing competition. They are, in the workman, very much what cowardice before the enemy is in the case of the soldier.

Annotations.

"Ne quid nimis."

SCIENCE AND IMMORTALITY.

UNDER the above title Professor William Osler has published in book form[1] the Ingersoll lecture delivered by him at Harvard University on the Immortality of Man. We can recommend the volume not only for its literary charm but also for the thoughtful and suggestive discussion of the comforting conception of immortality from the standpoint of the scientific physician rather than from that of the philosopher or theologian. Lord Kelvin, in his interesting address to the students of St. George's Hospital on Oct. 28th, an account of which was published in THE LANCET of Nov. 5th, p. 1305, referred to the importance of the study of human nature to the physician and Professor Osler outlines from the point of view of the earnest and sympathetic student of mankind his conclusions as to the general belief in a future life. The two addresses might with advantage be read together as a corrective to the too materialistic conceptions to which science is apt to lead. Professor Osler thinks that the old triple classification of mankind from their attitude of mind to this great problem is helpful to the modern student and he discusses the three groups—the Laodiceans, the Gallionians, and the Teresians. The Laodicean attitude, neither hot nor cold but luke-warm—that is, an attitude of practical indifference—is that affected by the great bulk of people. "Immortality," says Professor Osler, "and all that it may mean is a dead issue in the great movements of the world. Does it ever enter into the consideration of those controlling the destinies of their fellow creatures that this life is only a preparation for another? To raise the question is to raise a smile." He quotes Emerson that the cheapness of man is every day's tragedy and asks whether, if we had any deep conviction that the many lives sacrificed in railway accidents, and even to sport, were living souls whose status in eternity depended on their belief at the moment of death, some fervid uprising would not occur. Again, the attitude of educated man at the moments preceding death is not, according to Professor Osler's study of the records of about 500 death-beds, one of fear but a "sleep and a forgetting," and man dies, as a rule, like Mr. Denner in Margaret Deland's story "John Ward, Preacher," wondering but uncertain, generally unconscious and unconcerned. The second group, who, like Gallio, care for none of these things, because after consideration from the intellectual or experimental standpoint

[1] Science and Immortality. London: Archibald Constable and Co., 1904.

they can find no confirmation for the belief in immortality, Professor Osler next discusses. He shows how, according to modern science, organisation and intelligence go hand in hand so that the conception of the soul becomes a superfluity, and how to the scientific man the conception of intelligence apart from organisation is practically unthinkable; and then in one of the most charmingly worded sections of the book he outlines the idea of the morphological continuity of the germ plasm—the immortality of the flesh as he expresses it—and the scheme of nature, careless of the individual life but careful of the type. The last class, the Teresians, those who walk by faith and not by sight, the idealists and the mystics, he contrasts with the foregoing classes, the indifferent and the realists. He shows the power of the emotions, the happiness and brightness of the hope of the Teresian as compared with the doubt and indifference of the other classes, and concludes with his own confession of faith that he "had rather be mistaken with Plato than be in the right with those who deny altogether the life after death." Professor Osler's little book is worthy of him as a disciple of Sir Thomas Browne and we can only hope that this, a modern "Religio Medici," will be widely read and thoughtfully studied by both lay and medical readers.

THE CIVIC CHAIR AND MEDICAL MEN.

FEW medical men can find the necessary time to serve their fellow citizens by holding the office of mayor. It is much to be regretted that this should be so. The public is recognising more and more the importance of hygiene, and sanitary questions become almost daily of greater urgency, so that those communities are fortunate which have at the head of their respective municipal governments a medical man to guide them. The medical officer of health may do good work but unless he receives the support of his authority his work to some extent will be wasted, and such support is the more likely to be given in municipalities where a medical man is at the head of affairs. Up to the time of going to press we have been notified that five boroughs have elected members of the medical profession to the civic chair—namely, Bangor, Dartmouth, Denbigh, Thetford, and Great Yarmouth. Bangor has chosen Mr. H. Grey-Edwards, M.D., B.Ch. Dub., who has previously been mayor of the town. Dr. Grey-Edwards was born in 1857 and was educated at Rossall School and Trinity College, Dublin, where he took degrees in arts and medicine and won the Surgical Travelling Scholarship. He has been a member of the town council for many years and has taken a leading part in questions of sanitation. Dartmouth has re-elected Mr. R. B. Searle, L.R.C.P. Lond., M.R.C.S. Eng. He was educated at King's College, London, where he distinguished himself in mathematics and medicine. He has been in active practice for more than 40 years. He was elected at the head of the poll as town councillor of Dartmouth seven years ago. His term of office having expired in 1900 he did not seek re-election but in 1903 he was asked by the town council to become its mayor and has been again re-elected for 1904. Denbigh has re-elected Mr. David Lloyd, M.B., C.M. Glasg. He was educated at the University of Glasgow and the Middlesex Hospital, London. After having acted as county councillor for four years he was in 1903 elected mayor and has been re-elected this year. Thetford has chosen Mr. Allan G. Minns, L.R.C.P. Lond., M.R.C.S. Eng. He was born in 1858 in the Bahamas, West Indies, where he received his early education. In 1879 he entered as a student at Guy's Hospital. In 1884 he qualified and acted as assistant to his brother, Dr. P. R. J. B. Minns, at Thetford. In 1888 he was appointed medical officer to the Thetford Workhouse and to the Thetford district—appointments which he still holds. Last year he was elected a municipal councillor and this year has accepted the office of chief magistrate. Yarmouth has elected Mr. A. C. Mayo, M.R.C.S. Eng., L.S.A. He received his early education from Mr. John Hatton of Coleford. In 1867 he entered at King's College, London, and having passed the examinations for the diplomas of the Society of Apothecaries and of the Royal College of Surgeons of England commenced general practice in partnership at Mildenham in Suffolk. Later he went to Great Yarmouth and was appointed Admiralty surgeon the following year. In 1880 he was appointed surgeon to Great Yarmouth Hospital. In 1894 he became President of the East Anglian Branch of the British Medical Association. Last year he represented the combined districts of North Suffolk and East Norfolk at the Swansea meeting of the British Medical Association and held the same office this year at Oxford. His municipal life began in 1885 when he successfully contested the Regent Ward of Great Yarmouth; three years later he was made an alderman and justice of the peace for the borough and now he becomes mayor. It is worthy of note that he was proposed as mayor by the leader of the Conservative party in Yarmouth, seconded by the Liberal leader, and elected unanimously.

A REMARKABLE CASE OF HYSTERIA IN THE MALE.

Dr. S. Weir Mitchell of Philadelphia and Dr. William Spiller record in the *Journal of Nervous and Mental Disease* for October a remarkable case of hysteria in the male, lasting 30 years, with post-mortem examination. The case was that of a man, by occupation a watchmaker, whose malady lasted without complication by any intercurrent illness and whose death was sudden. "The conditions seemed to be ideally perfect. ..... I am aware of no other case of uncomplicated hysteria in which the search for causative lesions seemed to offer such an opportunity," says Dr. Mitchell. The patient's family history was neuropathic: two of his five sisters were insane, an uncle had epilepsy, and a cousin was suffering from general paralysis. As a child the patient was nervous, timid, and reserved and although slow at his lessons was not lacking in intelligence. At 17 years of age he had typhoid fever without complications or sequelæ. At 25 years of age he had sunstroke and was insensible for two days but had no bad after-effects except a life-long over-sensitiveness to the heat of the sun. At 29 years of age he began to have some difficulty in his delicate handwork as a watchmaker; this was at one time a weakness of both hands and at another a momentary spastic condition of the left arm. This trouble with his hands came and went. Later he suffered from sudden attacks of weakness in the legs which came on while walking and arrested his steps but which passed off in a few moments. With these occasional attacks of pain or incapacity of the hands and legs came also pain in the lumbar and cervical regions felt at times ever since. The patient, says Dr. Mitchell, was refined, gentle, and timid, but clearly intelligent and "over-willing for a time to exhibit the spasmodic symptoms. Then abruptly his face would change, he would lose his constant smile, and be annoyed by our curiosity." He was free from organic disease, his senses were perfect, and his sleep was good. The spasms or tremors of his left arm gradually attained greater amplitude and he swung it about in "pendulum" fashion with astonishing rhythmic regularity. It was timed on several occasions and found to be moving at the rate of 160 oscillations per minute. The rhythm of this movement varied; thus, if while standing he elevated and extended the right hand and arm to the shoulder level, instantly the rhythm mounted to 200 and when the right arm ceased to act the number fell again to 160. While these swinging spasms lasted he could execute no volitional act with the

hand; excitement and emotion added to the force of the motions but voluntary movements of the other limbs increased the number more than the force of the spasms. Attempts by himself or others to seize the arm and forcibly to arrest its movements "caused horrible pain in the back of the head, while he tottered at the same time and the face became convulsed." During these attacks there were no loss of consciousness, no anæsthesia, no speech or ocular trouble, and no aural defect. These "pendulum" spasms continued unchanged up to October, 1876. The movement ceased when he lay down but recurred on his standing up and were exaggerated by walking. Volitional attempt at control made the spasm worse. Since August, 1895, he had at times long periods of continuous contraction of the fingers of the right hand. Dr. Mitchell had seen the patient from time to time since 1898. The "pendulum" action of the arms was now substituted by "a rotatory movement which persisted until his death." In July, 1903, the patient presented symptoms of cardiac weakness. Increasing palpitation and shortness of breath occurred in October. On Nov. 11th he died suddenly after breakfast. The treatment of the case was of interest. Hypnotic treatment was constantly used and after prolonged and repeated sittings slight improvement resulted. Eventually the patient refused to be hypnotised and said that "the hand of the Lord was heavy upon him." All drug treatment proved ineffective. The necropsy revealed a normal condition of the spinal cord (grey and white matter and nerve roots) at all levels of the cervical, dorsal, and lumbar regions. The convolutions of the brain were normal to naked-eye appearances and microscopic examination of the ascending frontal gyri showed normal cells and medullated fibres. "The microscopical examination of the brain and spinal cord revealed nothing that could be regarded as distinctly pathological and afforded no explanation of the involuntary movements." The heart was slightly paler and smaller than normal and the coronary arteries showed slight atheroma but the valves and endocardium were normal. The psychical picture, the mental peculiarities, and the motor phenomena indicated hysteria, a diagnosis in which Dr. Dercum and Dr. Sinkler concurred. "The findings justified us," says Dr. Mitchell, "in stating that the most typical hysteria may last for years and present no sign of representative organic lesion."

THE PURITY OF BREAD.

WE remember that some years ago a bread reform league was established but we are not sure that it exists now. Unfortunately, it adopted fallacious views but its purpose was perfectly sincere. The organisers of this movement proposed to abolish white bread in favour of the wholemeal bread on the ground that the latter contained the whole and essential nourishing constituents of wheat, while the former represented but a fraction of these constituents. It is true that, chemically speaking, wholemeal bread presents a composition which would appear to give it a dietetic advantage over white bread; but while this may be so physiological experiment has shown that the absorption of wholemeal bread is distinctly defective as compared with that of white bread. This question having been definitely decided in favour of the latter, is it too much to hope that a new bread reform league will spring up and will turn its attention to the purity and the quality of the white loaf? There is ample room here for good work and the first thing that should be done is to explode the dangerous fallacy in the lay mind that the whiter the loaf the purer and more wholesome the bread. The question of physical deterioration looms largely just now and none can doubt that where physical deterioration exists food must be an important factor. And in how many households is bread the staple article of diet. Yet, not satisfied with producing an impoverished loaf by modern steel-rolling methods we are told, on the authority of Mr. Francis Fox, that such is the craze for white bread that many millers are putting up expensive machinery for the purpose of bleaching the flour. With this object ozone and nitrous acid are to be requisitioned, which will, moreover, enable grain to be used which would otherwise give a darker colour to the flour. Surely this tampering with our great staple article of diet should be prevented once and for all. It is intolerable that the people should be at the mercy of unscrupulous traders in regard to the quality of their daily bread. But, after all, the matter rests with the public. It is their ignorance which contributes to the wealth of the substitute-monger and to that of the manufacturer who sacrifices the real and essential qualities of a food for the sake of a "pure" appearance. Let the public demand an honest label or description, let them realise that in bleached flour or flour deprived of its vital nutritive qualities their chances of repairing body waste are diminished, and we imagine that there would soon be an end to the impoverisher. And what a much better article is the old-fashioned loaf made from stone-crushed flour than the modern unnatural snow-white bread, a quality, perhaps, as much due to chemicals as to the steam roller-milling process. There is another aspect of the question of the supply of pure bread which is touched upon by a correspondent in our columns this week. He alludes to the defilement of bread which undoubtedly often takes place during its delivery from the baker to the customer. We have more than once referred to the utterly indifferent way in which food in transit is exposed to dirty surroundings. This is particularly so in the case of fish, meat, vegetables, milk, and bread. The latter, as our correspondent points out, is often left in trays on the pavement and surrounded by dogs attracted by the crumbs. The loaves are frequently mud-bespattered or they occasionally fall in the gutter. In this connexion, too, we have recorded an instance of a salmon being tainted with naphthalene derived from the tar used for pickling the wood blocks in the street. Surely some pressure should be brought to bear upon tradesmen and others to induce them to deliver our food in a clean condition and in such a way as to prevent defilement in the manner indicated.

THE CEREBRAL LOCALISATION OF A NON-DEMENTING PSYCHOSIS OCCURRING IN A MALE DEGENERATE.

THERE are occasions when a broad distinction can be justifiably made between psychoses which lead to dementia and those which do not, and there has always, at least, been an opinion that insanity does not stand still but has a tendency to pass into a better or worse condition. In the "Studies from the Department of Neurology" of Cornell University, 1904, Professor Charles Dana records a case in which absolute arrest was observed in a distinctly "degenerative" insanity, a case interesting in many respects for the indications it also affords of the cerebral localisation of the disease. The patient's symptoms were also elaborately studied and tested at three different periods by laboratory methods and apparatus. The patient was a man, aged 42 years, of neuropathic heredity. His mother was normal until the age of 40 years when she had an attack of mania followed by "a kind of neurasthenic insanity characterised by mysophobia and fear of food." His father was strong and healthy in mind and body. At the age of 19 years the patient grew depressed and was sent to Europe. He recovered in about six months. At 23 years of age he again became depressed and after a few weeks wounded himself, accidentally it was

thought, with a pistol. For six months he refused to speak and had to be fed. Then he became filled with lively delusions of an expansive kind. These passed away within the next two years and he was able to resume normal family and social life. He remained well for 12 years afterwards but was eccentric, suspicious, and at times exhibited a few delusions of a prominent character. His habits were extravagant and he was regarded as a person fond of books and of mechanical inventions. At the end of 12 years, in the autumn of 1896, he suddenly developed an acute maniacal attack with delusions of grandeur and violence. Placed in an asylum he passed into a state of stupor and then partial recovery followed. "In two months he reached the stage in which he has remained ever since, a period now of six years." He could go about the asylum and take reasonably good care of himself. His sense of place and of his surroundings was vague and imperfect; he could not recognise the nature of the institution, the medical men who attended him, or relatives who visited him. His ideas were megalomaniacal, he called himself Vanderbilt, the Sultan of Turkey, and Mr. X. Domestic ties seemed blunted and lost and egotism was intense. He busied himself in calculations with figures and designed diagrams illustrating ridiculous and impossible theories. He knew and cared for no current events and had no interest in papers and pictures except as suggesting to his mind something pertinent to his own calculations. He could play billiards and draughts fairly well if his attention was occasionally "coached." He was most cleanly in person and in his toilet. "His manner was that of an active man, much absorbed in literary, inventive, and mathematical work. For six years he continued thus." It became important to know whether he was imperceptibly passing into dementia or equally imperceptibly recovering. Careful tests with physiological apparatus were made by Professor J. McK. Cattell and Dr. Dearborn as regards motor function, special and general senses, reactions, and the elementary and more complex psychical functions in March and July, 1899, and in May, 1902. The higher senses were normal but the mental processes were incoherent. The interval between the second and third examinations did not develop the slightest change of symptoms or character. The cerebral process of disease, says Professor Dana, having "sloughed off" certain psychical functions ceased to progress further and a permanent state of partial dementia was left. Perhaps in time further degeneration may set in as natural senility came on. He had ideas but he could not direct or correlate them. The disorder must correspond with a distinct group of neurons belonging to the association areas of the brain.

THE CRYSTAL PALACE: AN INTERESTING EXHIBITION.

CONSIDERABLE progress has been made with the Colonial and Indian Exhibition to be held at the Crystal Palace next summer. The greater number of the Crown Colonies have made arrangements to be represented and although no definite conclusions have been arrived at by certain of the colonies, yet there is still little doubt that Canada, New South Wales, South Australia, and New Zealand will be officially represented. The Colony of Victoria has already applied for an allotment of space. In the case of the colonies in which the Governments are not participating, such as the South African Colonies and Western Australia, a considerable amount of space has been taken up by private exhibitors. The Indian Government looks favourably upon the scheme, and although up to the present only a display of Indian forestry has been definitely decided upon there is every reason to believe from the negotiations in progress that a large space devoted to the full resources of our Eastern Empire will be arranged. The chambers of commerce of Cochin and Cawnpore have announced their intention of sending representative exhibits and the chambers throughout India have the matter under consideration. A really representative exhibition of our Imperial resources should make a most useful as well as most fascinating show. It is to be hoped that matters having reference to public health in its widest sense will receive due attention. There can be no doubt that the chief barrier to intimate relations between the mother country and some of the dependencies has hitherto been caused by the conditions of tropical or climatic disease which tend to hinder not only permanent emigration but even commercial intercourse. If the public are instructed by the unimpeachable evidence of a material exhibition that the health of the community is being made the care of the State a notable impulse to mutual understanding will be furnished to the whole Empire.

ALCOHOL CONSIDERED AS A FOOD FROM A PRACTICAL STANDPOINT.

IT has now been established by several well-known classical researches that up to a point alcohol is a food and past that point it is a poison. To draw a sharp line of demarcation which shall define for all persons when its action as a food exactly ceases and when its effect as a poison exactly begins is barely possible. The tissues of different individuals differ greatly in regard to their oxidising capacity and it is a matter of common observation that there are persons who can tolerate more alcohol than others without apparent injury to health. Again, occupation and environment very materially affect the powers of the body to assimilate alcohol. Thus men who pursue an active life in the open air are able to indulge in alcohol more freely than are those who are engaged in sedentary occupation. It is all a question of functional activity, of the condition of the tissue to oxidise the combustible material presented to it. It has been conjectured that the oxidising power of the tissues, over alcohol in particular, must have steadily diminished since the time when our ancestors drank their three bottles of port with impunity. Such a performance at any rate is seldom heard of nowadays. The quantity of alcohol imbibed in such an exploit must obviously be greatly in excess of the limit of the body's oxidising capacity, as deduced from scientific experiment. One and a half fluid ounces of pure alcohol is the utmost quantity that can be completely utilised as *food* in the human body per diem according to experimental observation. A quantity ingested additional to that amount therefore may escape oxidation, incomplete products of combustion, so to speak, may be formed, and toxic effects ensue. It is therefore interesting to consider what amounts of the ordinary alcoholic drinks contain this permissible allowance of alcohol—say, one and a half fluid ounces—which is assumed to be the extreme limit of the oxidising power of the body. Taking brandy and whisky to contain 50 per cent. by volume of alcohol, three fluid ounces or six tablespoonfuls of these spirits would contain the maximum allowable daily dose. This would be the equivalent of about two glasses of brandy or whisky and water per diem, each containing three tablespoonfuls of spirit and a half pint of water, to exceed which would be to risk a toxic result. Port and sherry, with their average of 20 per cent. of alcohol, would contain the permissible amount of alcohol in seven ounces or a little over two wineglassfuls, assuming each to contain about three fluid ounces. The limited quantity of white wines, claret, or champagne, with 10 per cent. of alcohol, would be 15 fluid ounces, while one and a half fluid ounces of alcohol represent about 30 fluid ounces or a pint and a half of table beer. The question is, however, complicated in the case of wines and beer, because these contain nutritive

matters in addition. Apart from the fact that to avoid injury to health the amount of alcohol consumed per diem should be limited strictly to one and a half fluid ounces, it cannot be regarded for practical purposes as a food in the sense of a true reparative. It is at best a producer of heat and energy and then frequently at the expense of healthy cellular activity, while its cost from the point of view of actual food value has been calculated to be eight times more than that of bread.

DISLOCATION OF THE ATLAS CAUSING PARALYSIS OF THE LEFT ARM AND SYRINGOMYELIC DISSOCIATION ON THE OPPOSITE SIDE.

IN the *American Journal of the Medical Sciences* for November Dr. J. H. Lloyd has reported a remarkable case. A man, aged 21 years, was admitted into hospital on Jan 12th, 1904. He was addicted to alcohol and on Sept. 16th, 1903, while drunk, was thrown from a car on his left shoulder; the wheel passed over the back of his neck. He was unconscious for some time and was taken to a hospital where fracture of the jaw was diagnosed but no spinal injury was noticed. After 12 days he was discharged. He then attended as an out-patient for an abscess of the jaw. During this time he was unable to rotate his head on his shoulders. On the day of his second admission into hospital while walking on a slippery path he fell on his left shoulder, striking the back of his head with great force. He was unconscious for five minutes and when he recovered he could not move any of his limbs. After half an hour he began to regain power but none returned to the left arm. On admission he was unable to stand. There was marked deformity of the neck. The head was held rigidly and twisted to one side. On the posterior wall of the pharynx a projecting mass could be felt. The left arm could not be moved but the forearm could be flexed and extended. The forearm could not be pronated or supinated. The thumb and index finger could be flexed and extended but the middle, ring, and index fingers could not be flexed and the fingers could not be separated. There was no muscular atrophy. Electrical examination showed only slight diminution of faradic irritability in the deltoid and pectoralis muscles. In the right upper limb there was marked loss of the thermic sense. In the rest of the right side the thermic sense was impaired from the fourth cervical vertebra downwards. There was also analgesia of the entire right side below the fourth cervical vertebra. Above was a hyperæsthetic area an inch wide and above this sensibility rapidly shaded to normal. There was tactile anæsthesia in the area of distribution of the great occipital nerve. The patient never showed signs of hysteria and the sensory phenomena were not transferable. In hospital the sensory symptoms improved and almost disappeared but the paralysis of the left arm persisted. In a skiagraph the atlas appeared to be displaced. The lesion must have been high in the neck, because the great occipital nerve is a branch of the second cervical which passes out between the atlas and axis. The paralysis of the arm was difficult to explain. The brachial plexus was far from the cervical lesion. The fact that the leg was not involved showed that the paralysis was not due to pressure on the lateral tract. Dislocation of the atlas is usually described as immediately fatal, but several well-authenticated cases have been recorded in which the patient lived for weeks and even for years. Mr. Jonathan Hutchinson has described a case of dislocation of the atlas and fracture of the odontoid process with survival for two years.[1] The diagnosis was confirmed by necropsy. In this case the atlas with the odontoid process was dislocated half an inch forwards and a little to the left. The odontoid process was fractured through the base and was ankylosed to the atlas and to the front of the axis in a new position. The lower articular parts of the atlas were pushed forward and downward and were ankylosed to the anterior surface of the axis. The axis and third cervical vertebra were also ankylosed. The displacement of the atlas forward was such that its posterior arch crossed the spinal canal. The portion of the canal in front through which the cord passed would not admit the tip of a child's little finger, so that the cord must have been much compressed. The patient subsequently became paralysed in motion and sensation. Probably the displacement slowly developed. Dr. Lloyd has previously recorded two cases of injury of the cervical cord simulating syringomyelia.[2] On the most injured side there were involvement of the motor tracts and tactile anæsthesia, while on the opposite side there were thermo-anæsthesia and analgesia. He thought that these cases showed that the fibres which conduct the sensations of heat, cold, and pain decussate in the grey matter and pass upwards in the antero-lateral tracts of the opposite side, whilst the fibres for touch pass upwards in the posterior column without decussating.

[1] Reports of the London Hospital, vol. iv., p. 210.

THE LESIONS OF THE NERVOUS SYSTEM CAUSED BY THE ACT OF BIRTH.

SOME of the nervous lesions and paralyses sustained by children in the act of birth are of a slight and temporary character, while others may be of serious nature, the effects lasting a lifetime and causing physical or mental incapacity of various kinds. In a discussion on this subject at the New York Neurological Society, of which an account is published in the *Journal of Nervous and Mental Disease* for October, Dr. L. Pierce Clark and Dr. A. S. Taylor of New York showed several cases illustrating the effects of obstetrical or birth palsy. The facts demonstrated in these cases were as follows: First, the most important etiological factor in the production of brachial birth palsy was direct or indirect tension of the nerve trunks with rupture of a few nerve fibres; secondly, the persistence of palsy was due to the destruction of axis cylinders and the formation of a new connective-tissue growth (a hyperplasia) between the torn nerve ends, through which nerve fibres could not regenerate; thirdly, the nature of the lesion in severe typical cases demanded excision of the damaged nerves and suture of the ends at the earliest possible moment, as in the treatment of peripheral nerve injuries elsewhere; fourthly, operation should not be delayed later than two or three months after birth; and fifthly, the surgical treatment should be followed by a system of massage, electricity, and systematised muscle movements. Dr. Clark and Dr. Taylor presented five cases of brachial birth palsy. Cases of such palsy were, they said, due to tension or compression of the fifth and sixth cervical nerve roots. "Tension probably played much the greater rôle in the causation, although both factors had been proven causative agents, both in clinical and experimental work." In all the cases that had come to their knowledge there had been either a history of traction or else this could not be excluded. This was the traction produced by the forcible depression of the shoulder, while the head was bent to the opposite side and rotated; in this the cervical nerve roots were overstretched, causing rupture of the nerve fibres over a considerable area. The lesion was always in the fifth and sixth nerve roots, frequently also in the seventh, and occasionally in the eighth and first dorsal nerves. During the past year Dr. Clark and Dr. Taylor had operated upon four cases; two proved fatal

[2] Journal of Nervous and Mental Diseases, June, 1894, p. 345, and Feb. 1900, p. 65.

owing to shock and the other two recovered from the operation and gradually improved. Dr. R. Whitman described five cases in his care. One of these was that of a little girl, aged nine years, who had a posterior rotation and dislocation of the shoulder and was the subject of partial muscular atrophy of the upper limb, rendering supination of the forearm and certain movements of the shoulder impossible. By restoration of the bone to its joint and the use of proper surgical apparatus much of the lost power was regained but it was doubtful, stated Dr. Whitman, whether that would ever restore the destroyed nerve-fibres. One of the five cases was that of a boy born after a "dry" labour with the aid of forceps and after a great deal of traction had been made. He was much asphyxiated and recovered with difficulty. He showed a paralysis and progressive atrophy of the muscles of the right arm and a downward displacement of the humerus perhaps for half an inch. The bones were also smaller and shorter in the affected limb than in the sound limb. After operation on the brachial plexus and suture of the nerves there was return of function and much improvement followed. Dr. Bernard Sachs said that much benefit had been obtained by electrical treatment in cases under his personal care and that he did not approve of the risk of surgical operation if dislocation was proved to be absent.

THE ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga and amounting to about $180, will be made on July 14th, 1905, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but must not have been published, and must be received by the secretary of the College on or before May 1st, 1905. Each essay must be sent without signature but should be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and the address of the author. It is a condition of competition that the successful essay, or a copy of it, shall remain in the possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1904 was not awarded, no essay of sufficient merit, in the judgment of the committee, having been submitted in competition.

FATAL NITROBENZOL POISONING DUE TO ABSORPTION FROM SHOE BLACKING.

IN the *Journal of the American Medical Association* of Oct. 1st Dr. W. J. Stone has reported a case which appears to be unique in the fact that death was due to absorption of nitrobenzol through the skin. A man, aged 22 years, in good health, was taken suddenly ill at 12.30 A.M., in a restaurant where he had gone for supper after a dance. He remarked that he did not feel well and his friends noticed that he seemed very pale. While standing up to put on his coat he became faint and fell. Water thrown on his face revived him but he felt dizzy and vomited beer, crackers, and cheese which he had just taken. He was taken home in a carriage at 2 A.M. He passed into a comatose state and at 3.30 his room-mate, supposing that he was in a drunken stupor, sent for a medical man who found the patient in a state of collapse. He was very pale, his eyes were glazed, and his lips, ears, and finger tips were cyanotic. The corneal reflex was absent. The pulse was 130 and about one beat in 25 was dropped. $\frac{1}{30}$th of a grain of strychnine and $\frac{1}{60}$th of a grain of apomorphine were injected hypodermically. At 4.45 a slight convulsion occurred, the left pupil suddenly dilated, and the heart stopped. Six hours later a necropsy was made. The skin and visible mucous membranes were very pale. The lobes of the ears and finger tips were cyanotic. The feet were coloured black. The urine contained albumin and granular casts and the kidneys showed acute desquamative nephritis. In the liver were found cloudy swelling and fatty degeneration of the cells. It was subsequently ascertained that a few days before death the man bought a pair of black patent-leather shoes with cloth tan uppers. To the latter on the evening before the dance he applied a liquid blacking. When he put on the shoes on the evening of the dance the uppers were not dry and stained his feet. Blacking found in his room and the shoes emitted a strong odour not unlike that of oil of bitter almonds. Analysis showed that the blacking and the uppers of the shoes contained nitrobenzol. This is a powerful narcotic poison, the fatal dose being about one gramme. Extensive parenchymatous degeneration may, as in this case, be produced in the kidneys and the liver.

PATHOLOGY AT OXFORD.

THE University of Oxford possesses an excellent pathological laboratory, perhaps one of the best arranged in the kingdom, and the director of pathological studies has virtues corresponding with the facilities afforded for the teaching of his subject. But of endowment there is practically none. This is a state of affairs which all interested in the growing medical school at Oxford feel should be remedied without delay and strenuous attempts are being made by the University to obtain funds for the pathological department, the aim being the establishment of a professorship of pathology. The money will have to be obtained from outside sources, for it is an open secret that at the present time the funds of the University are all required in other directions. A successful beginning, however, has been made by those who are moving in the matter. Lord Rosebery in his speech at the Oxford Colonial Club banquet on Nov. 14th announced that the Rhodes trustees were prepared to grant £200 per annum for five years as an addition to the stipend of the reader in pathology. This should encourage hope that the necessary sum will be forthcoming without long delay.

ON DILATATION OF THE STOMACH AND GASTROPTOSIS.

WE have received a reprint of a paper by Dr. Robert Coleman Kemp, published in the *Medical News* of New York of August 6th, 1904, embodying the results of observations on a number of cases of disease of the stomach, with especial reference to the value of the various methods of physical examination. Dr. Kemp deprecates the tendency to rely on the investigation of the gastric contents alone and to neglect that of the motor functions and position of the organ itself. He regards the condition of gastric atony, or loss of tone of the muscles of the stomach, as a condition preceding dilatation and gastroptosis which may be looked upon as progressive stages or later results of the motor insufficiency. In dilatation of the stomach without gastroptosis the muscular fibres first elongate in the vertical direction and the distance between the lesser and the greater curvature is thus increased; later the pylorus is displaced to the right but the lesser curvature maintains its relation to the diaphragm; whereas in gastroptosis the entire organ sinks so that the lesser curvature looks inwards (to the right) and the pylorus may lie below the level of the umbilicus. With gastroptosis, according to Dr. Kemp, there is always associated some degree of dilatation. He also regards gastroptosis as the chief cause of mucous colitis and the neurasthenia so frequently associated with it. With regard to the comparative value of the methods of localising

the position and size of the stomach he gives preference to gastro-diaphany or transillumination. The method was introduced by Dr. Max Einhorn in 1889 and consists in the passage of a rubber tube with an electric lamp at its end into the stomach, into which some water or, as Dr. Kemp has suggested, some fluorescent solution has been previously introduced. The examination is carried out in a dark room with the patient standing or recumbent and the extent of the stomach can be readily made out by the transillumination so obtained. The stomach splash was found to be absent in at least 40 per cent. of cases of dilatation and gastroptosis and Dr. Kemp therefore agrees with the observations of Einhorn and Rose that its chief value when present is as a means of localising the stomach and not as a sign of dilatation, since it also occurs apart from digestive disorders. Dr. Kemp discusses the ordinary methods of inspection, percussion, auscultatory percussion, and inflation with gas or fluid, and finds them all inferior to transillumination. He also describes an instrument invented by himself, the "gastric whistle," consisting of a rectal tube of small calibre with a whistle at one end and a rubber bulb at the other. The whistle end is passed into the stomach and the bulb is compressed by rapid short compressions. A stethoscope is placed over the abdomen and the points of greatest intensity of sound are marked on the anterior abdominal wall. The results are said to agree well with those of transillumination. Dr. Kemp's methods are ingenious and his conclusions are of interest but in this country the tendency is at present rather to rely on the ordinary methods of examination than to submit the patients to examination by apparatus of the forms described.

PROFESSOR NAUNYN OF STRASSBURG.

WE have received from Strassburg a letter requesting the publication of an appeal of which the following is a translation:—

Strassburg, November, 1904.

To the Students of Professor Naunyn.

At the end of last semester Professor Naunyn resigned his position as a teacher of internal medicine.

We appeal to all who have studied under him during his professorship of almost 40 years, with the request to thank him in a collective address.

Professor Naunyn's students are requested to send us their names and addresses, in order that we may forward to them papers for their signatures.

On behalf of Professor Naunyn's last students,
HEIMENDINGER, cand. med.
ZSCHOCKE, cand. med.

Letters to be addressed:
Herr Zschocke,
Lessingstrasse 31, III, Strassburg in Elsass.

Professor Naunyn has been well known for many years as an able teacher of medicine and doubtless there are numerous British practitioners who will be glad of an opportunity of showing their gratitude to, and respect for, their old teacher.

THE EDINBURGH UNIVERSITY CLUB.

THE members of the Edinburgh University Club, with their guests, mustered in great force at the Criterion Restaurant, London, on Nov. 9th, Dr. Byrom Bramwell being in the chair. Not only was the company large but it included many eminent graduates of the University as Sir Lauder Brunton, Mr. W. Watson Cheyne, and Dr. T. F. Chavasse. The proceedings were of the most pleasant order, including some delightful songs by Mr. Peterkin, Dr. F. J. McCann, and others. Dr. Bramwell made an effective speech in praise of the University and especially of the great teachers from whom he learned the science and art of medicine. Dr. J. G. Glover, in proposing Dr. Bramwell's health, recalled the fact that Dr. Bramwell was, like himself, a Tynesider and said that he had known him long and his father before him, and respected them much. He regarded Dr. Bramwell as one of our greatest clinicians who happily had a corresponding gift of teaching. He was one of the most honoured in the roll of Edinburgh graduates and some of them would like to see his position in Edinburgh literally, as it was practically, academic.

RECENT DEVELOPMENTS IN THE THEORY AND PRACTICE OF IMMUNITY.

DURING a recent visit to the United States Professor A. Wassermann of Berlin delivered by request a lecture before the New York Pathological Society on the special discoveries made by himself and his pupils at the Institute of Infectious Diseases in Berlin on the subject of immunity and on new methods of preparing antisera for the treatment of infectious disease, an account of which is published in the *Journal of the American Medical Association* of Oct. 18th. The lecture does not deal with general principles well known from the teachings of Ehrlich but with special discoveries. Professor Wassermann points out that though strychnine and tetanin both excite spasms of the central nervous system, the injection of one (strychnine) produces no "anti-bodies" whatever in the blood serum, while the injection of the other causes the formation of special tetanus antitoxins. This is because the one substance (strychnine) enters into a loose combination with the cells of the central nervous system, so that it can be abstracted from these cells by solvents such as chloroform or ether, the combination being of such a nature as staining with aniline dyes. The tetanus poison, on the contrary, firmly fixes itself to the cell, becoming a portion of the protoplasm, so that it cannot be abstracted by solvents, the process being comparable to the assimilation of nutritive substances by the cell protoplasm. Similarly, saccharin passes through the body without assimilation, while sugar is assimilated. The first requirement for every toxic substance against which we can obtain a specific serum is that the toxin shall have power to enter into "assimilative" combination with certain living cells of the organism which it affects. A special molecular grouping exists, like a "key," in the toxin which enters into assimilative combination with cells which in turn possess a counterpart grouping of atoms, like a lock into which the key fits. This grouping of atoms in the cell is called the receptor group. The toxin carries also a special group of atoms (toxophore, or in ferments the zymophore group). While the toxin is still attached to the living cell its toxophore group by its presence and proximity excites a peculiar reaction in the cell. The cell protoplasm proliferates and gives rise to a group of receptors, while the receptor to which the toxin is attached is thrown off together with some of the receptors which have proliferated (supercompensation), so that the detached receptors, including the one which holds the toxin, are now free in the blood plasma. The free receptors in the blood constitute the anti-bodies and when employed in immunisation have the specific effect of combining with toxins and rendering them innocuous. The experimental verification of these facts is mainly due to recent researches conducted by Professor Wassermann and Dr. Bruck with tetanus poison. Tetanus poison, they find, is not absorbed *viâ* the blood and lymph channels but reaches the nervous system by way of the nerves—e.g., along the axis-cylinders of the motor nerves and thus to the motor cells of the spinal cord. Tetanus antitoxin, on the other hand, travels in the blood and lymph stream. Hence by an ingenious series of experiments, in which the capillary circulation was "blocked" by the administration of adrenalin, when an injection of the mixed toxin and antitoxin was made into the anæmic paw of guinea-pigs the toxin separated itself from the mixture and passing up the nerves into the spinal cord produced tetanus, while the antitoxin lagged behind

owing to the block in the circulation and could not overtake it to neutralise its effect. The bacteria of hog cholera and many streptococci, said Professor Wassermann, have more than one kind of molecule carrying the same toxin. These molecules therefore can be assimilated by different receptors in the cells of the patient. Hence, the antiserum for such organisms should be prepared not from a single pure culture but from several cultures injected into animals whose various seras would then supply a proper and effective mixed antiserum. This he had found to be the case also for antisera in the treatment of typhoid fever and of infection by the bacterium coli, as mixed antisera were the only ones found to be really effective. "Children recovering from diphtheria," adds Professor Wassermann, "are found to have diphtheria bacilli present in their throats and nasopharynx long after recovery. The use of mixed antiserum is necessary in preventing continued occurrence of these organisms, for then the child can go to school without fear of infecting others." The antiserum is dried, made into tablets which the children have to suck, and in a few days all diphtheria bacilli are found to have disappeared.

A PROVINCIAL sessional meeting of the Royal Sanitary Institute will be held at the Council Chamber, Exchange-buildings, Nottingham, on Saturday, Nov. 26th, at 11 A.M., when a discussion will take place on Some Present-day Aspects of Conservancy Systems. The discussion will be opened by Dr. Philip Boobbyer, medical officer of health of Nottingham. The chair will be taken by Mr. William Whitaker, B.A., F.R.S., chairman of council of the Institute. Tickets for admission of visitors may be had on application to Dr. Boobbyer, Guildhall, Nottingham, who is acting as the local honorary secretary of the meeting, and from Mr. E. White Wallis, secretary, Parkes Museum, Margaret-street, London, W.

AT the next meeting of the Royal Medical and Chirurgical Society to be held on Tuesday, Nov. 22nd, at 8.30 P.M., there will be a discussion on Chloroform Anæsthesia and demonstrations of apparatus and instruments for the administration of the anæsthetic. A short paper will be read by Dr. A. G. Levy and the general discussion will be opened by Dr. F. W. Hewitt. Probably it will be necessary to adjourn the meeting so that the subject may receive full consideration from all points of view. Gentlemen wishing to take part in the discussion are requested to communicate at once with the honorary secretaries, 20, Hanover-square, London, W.

THE annual dinner of the Royal Free Hospital and School of Medicine for Women will be held at the Hotel Cecil, London, on Wednesday, Dec. 14th, at 7.15 P.M. Dr. Harrington Sainsbury will take the chair. Past and present members of the hospital staff and school desiring to be present should communicate with one of the honorary secretaries, Dr. A. G. Phear, 47, Weymouth-street, W., and Mr. T. P. Legg, 141, Harley-street, W.

THE funeral of the late Dr. Achille Vintras, physician to the French Embassy and senior physician to the French Hospital in London, took place on Nov. 15th. The requiem was sung at 11.30 A.M. in the Church of Notre Dame de France in Leicester-place, Leicester-square, and was attended by His Excellency M. Paul Cambon, the French Ambassador.

THE general meeting of the London Chemists' Association will be held on Nov. 23rd at St. Bride's Institute, Fleet-street, E.C., commencing at 3.45 P.M. Among the agenda is the reading of a paper on a Better Understanding between Medical Men and Chemists and how this can be brought about by the Committee for its Members.

A MEETING of the Faculty of Medicine of the University of London will be held on Tuesday, Dec. 6th, at 5 P.M. Any member desiring to bring forward business is requested to give notice of motion to the honorary secretary of the Faculty of Medicine, University of London, S.W., on or before Saturday, Nov. 26th.

THE President of the Royal College of Surgeons of England, Mr. J. Tweedy, will unveil the memorial window to the late Mr. W. Cadge in Norwich Cathedral on Tuesday, Dec. 6th, at 3 P.M. The Dean of Norwich proposes to conduct a short service on the occasion.

A SPECIAL meeting of the Hunterian Society will be held on Wednesday, Nov. 23rd, at 8.30 P.M., to consider the following resolution passed by the council on Nov. 9th: "That it is advisable to dispose of the library with certain reservations."

AT the meeting of the Chelsea Clinical Society to be held on Dec. 20th Dr. R. L. Bowles proposes to bring forward the subject of the best method of artificial respiration for resuscitating the partially drowned.

Mr. H. T. Butlin has been elected a representative of the Royal College of Surgeons of England on the Senate of the University of London in the place of Sir Henry G. Howse, resigned.

THE annual dinner of the Otological Society of the United Kingdom will be held at the Trocadero Restaurant, Piccadilly-circus, London, on Monday, Dec. 5th, at 7.30 P.M.

MENTAL HYGIENE IN CHILDHOOD.

DR. T. B. HYSLOP gave an interesting address on Mental Hygiene in Childhood before the members of the Childhood Society at the Royal Sanitary Institute, London, on Nov. 10th. He said that the mental health of the community was a problem which was asserting itself with such ever-increasing and almost overwhelming force that alone it might well stand as sufficient justification for not only individual inquiry but for the most serious consideration of the nation. In the report of the Commissioners in Lunacy for England and Wales, 1904, they learnt that there were in England and Wales on Jan. 1st, 117,199 notified lunatics. The ratio of insane to the population of England and Wales was instructive, the aggregate on Jan. 1st last giving a ratio of 1 insane person to 288 sane persons. That ratio had steadily increased from the year 1859 (when trustworthy statistics of insanity commenced) at which date the ratio stood at 1 to 536. That rise had not been quite regular for all classes, the increase having been practically confined to the pauper class. Dr. Hyslop emphasised the importance of these figures and observed that it would be interesting to determine how long it would be before the ratio was as 1 to 1, certainly not long when the drop in the ratio of 248 in 45 years was taken into account. In Scotland the ratio was 1 to 279 and in New South Wales 1 to 299. The American lunacy figures were more startling. In his statistical report for last year the superintendent of the Chicago Insane Asylum stated that Chicago contained one insane person to every 150. The percentage had quadrupled in 50 years and was increasing at the fastest rate in the world. Those figures referred to certified lunatics under official cognisance and did not include imbeciles permitted to remain as citizens nor the thousands on the borderland between sanity and insanity. If statistics were provided relating to those who by reason of mental infirmity were incapacitated from competing with their fellow beings or even aiding in their own survival, the true state of affairs would be more completely realised and one and all would rise in revolt at the insidious onset of a national dementia which ere long it might be too late to combat or even

to ameliorate. The researches on fatigue lately conducted by scientific observers showed that strength was lessened by continued effort even in moderate degree, and in spite of the difficulties attending the investigation of the effects of fatigue on the brain it is now definitely ascertained that excessive muscular effort lessened or even abolished the sensory power of the cerebral centres. It was also interesting to note that the imperfect attention of pupils so frequently recorded as evidence of brain weariness was simply an expression of imperfect brain power resulting from over-exertion and that brain fatigue commonly induced a failure of memory and of the power of grasping a subject. Physical or mental exercise, when indulged in to excess and not rendered complementary the one to the other, in the long run proved baneful to the mental or physical health of the individual. The individual who had undergone too early excessive mental strain found himself at a comparatively early age suffering from one of the numerous forms of neurasthenia, or, in other words, exhaustion from too early and excessive use of functions which ought in the life-history of the individual to have developed more gradually and at a later period. The present age was one of too early and too rapid mental growth—Dr. Hyslop would not, and could not, say mental development. The early and severe taxation upon the resources of the brain produced effects which were becoming more and more disastrous and explained why mental and cerebral diseases tended to appear at an earlier age and were characterised by great severity and lessened curability. The young, of course, must be suitably educated to fit them for the competition of modern life. As to the extent to which this should be carried in early childhood there was a discrepancy between the doctrinaires of the Education Department and the views of those possessing any knowledge of the laws of nature or who as physicians dealt with cases of disease arising from the violation of these laws. The red-tape officialism of the Education Department was often supreme over medical experience and hence it came about that the physician must still raise his protesting voice as long as children before the age of puberty were overworked into disease or death. Undoubtedly the first years of life should be mainly occupied by moral and physical training and during that period the amount of mental cultivation which a child's brain was capable of receiving with permanent advantage was much less than was commonly believed. Hence arose a very important practical question in connexion with compulsory elementary education. A large proportion of those who must come within the provisions of the educational department in most large cities were ill-fed children of the poorest classes, and children thus debilitated by privation were necessarily as much incapacitated for any mental strain as they were for the accomplishment of any feat of physical strength. Dr. Hyslop declared that he was by no means alone in saying that it was inhuman, injudicious, and impolitic to expect the fulfilment of educational standard requirements by children so circumstanced. If for reasons of public policy all children are forced by the State to be compulsorily educated from their earliest years means should certainly be afforded by which that might be carried out least injuriously. The deterioration of the physical and mental stamina so much discussed of late had been considered to be due to the fact that a large part of the first years of life which should be primarily devoted to religious or moral as well as physical training was now given up to the development of the mental powers. Children were too early compelled to attend some school where their immature brains were forced into abnormal and disastrous activity. He believed that for the physical and mental welfare of the race such an imposition as compulsory education should be withheld from at least one-half of those who were now undergoing sentence in board schools. The present time was undoubtedly a brain age, but it was an age when brains were forced to grow at the expense of development. It was not an age of thought and reason but one of remembered facts and transmitted ideas.

ROYAL DEVON AND EXETER HOSPITAL.—Mrs. Nosworthy of Dawlish has offered to defray the whole cost (estimated at £1000) of the erection of a new operating theatre for the Royal Devon and Exeter Hospital, provided that all the subscribers who have already promised donations towards the new theatre allow them to be placed to the credit of the general funds of the hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Nov. 10th, Mr. JOHN TWEEDY, the President, being in the chair.

It was resolved that diplomas of Membership should be issued to 102 successful candidates.

A report was read from the finance committee which stated that for the quarter ending Michaelmas, 1904, the income of the College exceeded the "expenditure in respect of income" by £665; though the income had decreased by £320 the expenditure had also been reduced by £221. The report was approved.

A report was presented from the committee of management on a communication which had been received from the Board of Education in reference to a proposal for organising a system of school certificates. It was referred to a special committee to advise as to the form of answer to be sent, the Council approving of the general terms of the report mentioned.

Mr. H. T. Butlin was elected as the representative of the College in the Senate of the University of London in the vacancy occasioned by the resignation of Sir Henry G. Howse.

A letter was read from Mr. R. M. Banks thanking the Council for its resolution of condolence in reference to the death of his father, Sir William Mitchell Banks.

A letter was read from the clerk of the Privy Council transmitting, by direction of the Lord President of the Council, a copy of a letter addressed to the General Medical Council stating that the Lord President had had under consideration the proposal of the General Medical Council for the establishment of a register of medical students and the imposition of a registration fee not exceeding £1, and that his lordship had also received communications on the subject from the Presidents of the Royal Colleges of Physicians of London and Surgeons of England and suggesting that, "in the circumstances, it might be expedient for the Medical Council to confer with the Colleges with a view to the preparation of a scheme providing for their coöperation towards the desired end on a basis that would in some form or other recognise existing rights."

A letter was read from the clerk of the Privy Council transmitting, by direction of the Lord President of the Council, a copy of a note from the Portuguese Chargé d'Affaires forwarded to his lordship by the Secretary of State inviting the attendance of representatives at the Fifteenth International Medical Congress to be held at Lisbon in April, 1906.

A letter was read from the secretary of the Royal Sanitary Institute inviting the College to send delegates to a conference and exhibition on School Hygiene to be held in London in February, 1905.

A letter was read from the president and honorary secretary of the Royal Institute of Public Health inviting the College to send delegates to the next annual Congress of the institute to be held in London from July 19th to 25th, 1905.

The President and the Vice-Presidents were authorised to appoint all these delegates.

The PRESIDENT reported that he had accepted an invitation to unveil the Cadge Memorial window in Norwich Cathedral on Dec. 6th.

The PRESIDENT stated that the vacancy in the court of examiners occasioned by the expiration of Mr. Bernard Pitts's period of office would be filled up at the next ordinary meeting of the Council on Dec. 8th and that Mr. Bernard Pitts would be a candidate for re-election.

The SECRETARY reported the notices of motion for the annual meeting of Fellows and Members on Nov. 17th.

REPORT OF THE HEALTH OFFICER OF CALCUTTA FOR 1903.[1]

DURING the year 1903 it would appear that the registered birth-rate for Calcutta was 15·5 per 1000 of the population, and as Mr. Cook remarks that the true birth-rate there

[1] Report of the Health Officer of Calcutta for the year 1903. By J. N. Cook, D.P.H. Cantab., Health Officer. Calcutta: Printed at the Corporation Press. 1904. Pp. 28.

should not be less than 26 per 1000 it is evident that the registration of births is still very defective. A new system of registration in one district was tried last year as an experiment, with the encouraging result that the numbers registered were 51 per cent. more than in the corresponding periods of the three preceding years. The death-rate of the town was 35·1 per 1000, the high figure being due to a recrudescence of plague. If the deaths due to the latter were subtracted, the rate would be reduced to 25·4 per 1000, which is quite a moderate rate for Calcutta. The cholera death-rate was somewhat below the average but still too high, considering that the town has a filtered water-supply which has never been found to contain the germ of the disease. The too high death-rate is evidently due to importation by pilgrims from outside and to the pollution of the tanks. Reduction in the rate can only be expected when the devotees are sufficiently educated to know that they can discharge their religious duties equally well without drinking diluted sewage. Fevers showed a comparatively low mortality, and the sanitary officer considers that there has been an appreciable diminution in malarial fever in Calcutta in the last few years. It is remarked that enteric fever in the native is apt to pass unrecognised and to be confused with other febrile complaints. Phthisis shows an increased rate of mortality. A subcommittee appointed to consider a proposal of Mr. Cook to establish a home for advanced cases of the disease has reported unfavourably of the project so that for the present it is in abeyance. The vaccination returns show again a falling off on the whole. A new system has come into practice, however, with the result that in the last quarter of 1903 the number of vaccinations was 4624 against 3668 in the corresponding quarter of 1902. Vaccination was carried on by calf vaccine, glycerised vaccine, and lanoline paste, the glycerised vaccine comparing the most favourably, so that it is proposed in the future to adopt this method entirely. As regards the filtered water-supply, samples were found always to be free from the enteric and comma bacilli. Finally, amongst other points noticed in the report may be mentioned the general improvements in the slaughter-houses.

The whole report shows a vast amount of good solid work. It is illustrated by 25 tables bearing on the various subjects treated.

THE INFANTS' HEALTH SOCIETY AND THE PRESENT CONDITIONS OF INFANT LIFE.

THE Infants' Health Society was formed as recently as last spring, its object being to spread a knowledge of the best methods of combating the factors recognised as prejudicial to the life, health, and development of infancy. As an organised programme to such an end the society desires "to maintain an infants' hospital; to encourage the formation of institutions, such as dispensaries and milk depôts, &c., for the purpose of supplying either with or without payment food adequate in quantity and quality for the needs of each infant; to coöperate with other bodies, public or private, either by direct affiliation or otherwise; to make grants from any surplus funds at its disposal to any bodies responsible for undertakings in consonance with the aims of the society; and generally to further the work of the society by means of pamphlets, leaflets, lectures, and all other measures that may be deemed desirable." Pending a general extension of work upon these various lines the Infants' Health Society has appointed a special committee, including Mr. A. W. Mayo Robson, Sir Alfred D. Fripp, and Major-General Sir Frederick Maurice, with Lord Mansfield as chairman and the Hon. W. H. Goschen as treasurer, to carry on a special hospital at 7, Denning-road, Hampstead, under the name of the Infants' Hospital. Sir Lauder Brunton, Dr. T. M. Rotch, and Dr. Henry Ashby are acting as consulting physicians, and Dr. Ralph R. Vincent is physician to the new institution. We have before us the report of the first year's working, giving a statement of receipts and expenditure and a medical summary by Dr. Vincent of the actual work done at the hospital with the view of placing the management of infants on a basis of scientific hygiene—it being a postulate with the Infants' Health Society that the public are lamentably ignorant of the right manner to succour their children and that the medical profession as a whole does not realise the urgent importance of the resulting position. The report does not cover a sufficiently long time of working to make it of any great significance, but so far as it goes it is promising, showing that good results have already been obtained.

A pamphlet[1] has just been published under the authorisation of the committee of the Infants' Health Society which should afford material for thought to all medical men, especially to general practitioners. Relying upon the facts that about one-fourth of the total of deaths in the United Kingdom is contributed by infants under one year of age and that a large proportion of the infants which survive develop rickety symptoms we are asked as educated people "to realise the almost complete failure of our present method of rearing the infants of the working class and the danger to our national existence which such a state of affairs clearly and definitely portends." The pamphlet is strongly worded, the facts are made the most of, and some not specially convincing statistics indicate the appalling pecuniary loss that is implied by the assumed deterioration of the national health. Being avowedly written to arouse the public and the medical profession to the existence of evils well known to exist among us, but receiving from us no systematic attention, strong terms are used. The deterioration of our national health, for example, has never been proved to exist, though it stares us in the face that enormous improvements might be effected in many directions. The influx of an agricultural population into already overcrowded towns and the unhygienic housing of so great a proportion of our poorer citizens must affect prejudicially the national health. That a spread of sound information upon the rational and scientific feeding of infants, taken in conjunction with some widely organised scheme for the supply gratuitously or upon nominal terms of properly prepared and constituted infants' food, would be a boon to the country is undoubted, but we must not be drawn into thinking that even so valuable an innovation would do more than counteract some of the effects of general social conditions.

The remedy that the Infants' Health Society proposes for the present conditions of infant life lies in two directions: (1) the encouragement of maternal nursing under proper conditions; and (2) the insuring of adequate substitute food where maternal nursing is not available or impracticable. With regard to the first of these the fact quoted by the pamphlet that the maternal instinct is very strong in the women of the working classes makes it certain that where physical and economic conditions permit the infant is not early weaned, but unfortunately some mothers cannot nurse their infants and earn their bread simultaneously, and others with all the desire have not, for this or that reason, the physical capacity. In either set of circumstances the Infants' Health Society desires to start an organisation for the insuring of adequate substitute food and the following are set out as the essential features of such on organisation: (1) a milk depôt or out-patient department where the babies can be seen at regular intervals by a medical man who will order suitable food; (2) a trained nurse resident in the district with special experience in regard to infants; and (3) the coöperation of coroners so that inquests may be held upon all infants whose deaths *primâ facie* might be due to improper feeding. In these suggestions there is much material for thought. The preparation of a suitable food is a question of one sort and the ways and means by which it should be supplied so that it should be available day by day is another. The house-to-house visit of the trained nurse would in some cases be bitterly resented by the parents, while in scores of districts we are glad to say that no purpose would be served by the new machinery, as one already exists in the parish medical officer. Medical men already rely upon the coöperation of the coroner in bringing to light cases where infant death has followed upon improper feeding, but the situation here is rendered difficult by the fact that while some coroners welcome medical assistance others appear to spend time and ingenuity in avoiding all chances of learning the true medical history.

Nothing that we have said must be taken to mean that we desire to damp the ardour of those responsible for the foundation of the Infants' Health Society, the management of the Infants' Hospital, or the dissemination of the pamphlet

[1] The Present Conditions of Infant Life and their Effect on the Nation. London: Baillière, Tindall, and Cox. 1905. Pp. 16. Price 6d.

upon the "Present Conditions of Infant Life." The movement, taken as a whole, seems to us a valuable and important one and it will give us great pleasure to see practical reforms follow upon the propaganda. The help and sympathy of medical men must be sought. The chemist, the nurse, and the coroner all have their places in the organisation of a systematic scheme of infant feeding, but the constitution of substituted foods must be regulated by the medical results of their ingestion; the opinion of a nurse or a coroner as to the part played in some domestic tragedy by ill-judged or inadequate feeding will never be regarded by the public as worth much unless it is reinforced by a medical man.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Sanitary Circumstances and Administration of the Preesall-with-Hackinsall Urban District, by Dr. J. SPENCER LOW.[1]—The soundness of the policy of forming small urban districts is often called into question and this report is a useful contribution to the subject. In 1900 "Preesall-with-Hackinsall," an area of some 3000 acres, with a population of about 1400 persons, was separated from the Garstang rural district and was made a separate urban district, which for short may be called Preesall. This new administrative area contains some good residential houses and cottages, it abuts on Morecambe Bay, visitors go there in the summer, and volunteer camps are held there. Before 1900 a good deal of objection had been made to the insanitary conditions prevailing in this neighbourhood. It had no public water-supply, the inhabitants depending largely on rain-water or on well-water of doubtful purity; its sewers were badly laid, and the sewage in places polluted the sands of Morecambe Bay; its cowsheds were dirty and the local milk supply was open to grave suspicion. The Garstang rural council had done little for the place. The proposal to make Preesall a separate urban district was acclaimed locally as an important step to better things. We do not gather from this report whether the Local Government Board or the Lancashire county council actively encouraged the separation which the inhabitants asked for, or whether attempts were first made to compel the Garstang rural district council to do its duty to Preesall. However that may be, the official order was issued by the county council and the new district, in which a penny rate brings in only some £35, was invested with the dignity of an urban council, with clerk, medical officer of health, sanitary inspector, and surveyor of its own. On inspection in 1904 Dr. Low reports to the Local Government Board that so far the new authority has proved to be little better than the old. Schemes for water-supply and sewerage have come to nothing, while various objectionable nuisances remain unabated. "It is difficult to conceive that the conditions of the district, regarded from a sanitary standpoint, can have been appreciably worse in 1899 than they are to-day." Dr. Low deals with these insanitary conditions in detail and makes a series of recommendations on essential matters. But the prospect is not encouraging; and meanwhile, if visitors continue to go to the Preesall portion of Morecambe Bay they will be well advised to keep their children from the sewage-polluted sands on the sea front and to boil all their milk and drinking water.

[1] London: Eyre and Spottiswoode, East Harding-street; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. Price 2d.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8260 births and 4606 deaths were registered during the week ending Nov. 12th. The annual rate of mortality in these towns, which had been 15·9, 15·0, and 14·9 per 1000 in the three preceding weeks, increased again to 15·7 per 1000 last week. In London the death-rate was 15·2 per 1000, while it averaged 16·0 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 5·0 in Burton-on-Trent, 6·1 in Barrow-in-Furness, 8·3 in Hornsey, 8·4 in Aston Manor, 9·5 in Wallasey, 9·9 in Leyton, and 10·2 in King's Norton; the highest rates were 21·0 in Grimsby, 21·8 in St. Helens, 22·4 in Wigan, 22·7 in Middlesbrough, 23·2 in Hull, 24·2 in Halifax, and 25·7 in South Shields. The 4606 deaths in these towns last week included 380 which were referred to the principal infectious diseases, against 532, 394, and 425 in the three preceding weeks; of these 380 deaths, 127 resulted from measles, 77 from diarrhœa, 59 from diphtheria, 55 from "fever" (principally enteric), 34 from scarlet fever, 27 from whooping-cough, and one from small-pox. In Hornsey, Norwich, Devonport, Wolverhampton, Aston Manor, Coventry, and in eight other smaller towns no death from any of these infectious diseases was registered, while they caused the highest rates in Ipswich, Plymouth, Grimsby, Liverpool, Burnley, Hull, Middlesbrough, and Stockton-on-Tees. The greatest proportional mortality from measles occurred in Ipswich, Plymouth, Grimsby, Liverpool, Burnley, Middlesbrough, Stockton-on-Tees, and Tynemouth; from scarlet fever in York; from diphtheria in Tottenham and Hanley; from "fever" in Grimsby, Halifax, and York; and from diarrhœa in Blackburn and Middlesbrough. The mortality from whooping-cough showed no marked excess in any of the large towns. One fatal case of small-pox was registered last week in Leeds but none in any other of the 76 towns, and only one case of small-pox remained under treatment in the Metropolitan Asylums hospitals at the end of the week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday, Nov. 12th, was 2843, against 2687, 2725, and 2782 on the three preceding Saturdays; 294 new cases were admitted during the week, against 389, 305, and 294 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 251, 289, and 285 in the three preceding weeks, rose again last week to 323, but were 17 below the number in the corresponding period of last year. The causes of 62, or 1·3 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leeds, Sheffield, Newcastle-on-Tyne, and in 44 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, St. Helens, Warrington, Bolton, Manchester, Preston, Huddersfield, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 16·5, 16·7, and 17·8 per 1000 in the three preceding weeks, declined again to 17·5 per 1000 during the week ending Nov. 12th, but was 1·8 per 1000 in excess of the mean rate during the same period in the 76 large English towns. Among these Scotch towns the death-rates ranged from 10·8 in Perth and 12·0 in Greenock, to 17·3 in Edinburgh and 19·7 in Glasgow. The 578 deaths in these towns included 27 which were referred to diarrhœa, 20 to whooping-cough, eight to measles, three to diphtheria, and one to scarlet fever, but not any to small-pox or "fever." In all, 59 deaths resulted from these principal infectious diseases last week, against 70, 63, and 58 in the three preceding weeks. These 59 deaths were equal to an annual rate of 1·8 per 1000, which was 0·5 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 26, 30, and 21 in the three preceding weeks, rose again last week to 27, of which 18 occurred in Glasgow, four in Edinburgh, three in Dundee, and two in Paisley. The deaths from whooping-cough, which had been 16 and 17 in the two preceding weeks, further rose to 20 last week, and included 14 in Glasgow and four in Edinburgh. The fatal cases of measles, which had been six and nine in the two preceding weeks, declined again last week to eight, of which six were registered in Glasgow and two in Aberdeen. The deaths from diphtheria, which had been eight, four, and eight in the three preceding weeks, declined again to three last week. The deaths referred to diseases of the respiratory organs in these towns, which had been 95, 108, and 119 in the three preceding weeks, further rose last week to 136, and were slightly in excess of the number in the corresponding period of last year. The causes of 16, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·9, 20·6, and 21·5 per 1000 in the three preceding weeks, declined

again to 20·2 per 1000 during the week ending Nov. 12th. During the past four weeks the death-rate has averaged 21·8 per 1000, the rates during the same period being 15·4 in London and 16·4 in Edinburgh. The 147 deaths of persons belonging to Dublin registered during the week under notice showed a decline of nine from the number in the preceding week and included 12 which were referred to the principal infectious diseases, against 18, 16, and 13 in the three preceding weeks; of these, seven resulted from measles, four from diarrhœa, and one from scarlet fever, but not any from small-pox, diphtheria, whooping-cough, or "fever." These 12 deaths were equal to an annual rate of 1·7 per 1000, the death-rates last week from the principal infectious diseases being 0·9 in London and 1·4 in Edinburgh. The fatal cases of measles, which had been six four, and six in the three preceding weeks, further rose last week to seven. The deaths from diarrhœa, which had been 11, six, and five in the three preceding weeks, further decreased to four last week. The 147 deaths in Dublin last week included 25 of children under one year of age and 45 of persons aged 60 years and upwards; the deaths of infants showed a considerable decline from the number recorded in the preceding week, while those of elderly persons were slightly in excess. Nine inquest cases and five deaths from violence were registered and 47, or nearly a third, of the deaths occurred in public institutions. The causes of seven, or nearly 5 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: E. R. Dimsey, D.S.O., to the *Vernon;* E. J. Biden to the *Irresistible* on commissioning; H. J. Hadden to the *President* for three months' hospital course; H. Elliott to the *Empress of India;* and J. M. Rogers to the *Lion*. Staff Surgeon E. A. Penfold to the *Britannia* for the *Highflyer*. Surgeons: R. Thompson to the *Britannia* for the *Highflyer;* M. Cameron and H. C. Whiteside to the *President* for three months' hospital course; J. H. Lightfoot to the *Albacore;* G. E. Macleod to the *Irresistible;* W. G. M. Anderson to the *Leander;* H. W. W. Townsend to the *Fire Queen* for Portsmouth Yard; R. H. Atkins to the *Wye;* H. P. Turnbull to the *Wildfire;* W. R. Harrison to the *Widgeon;* and F. C. Robinson to the *Vivid*, additional.

The following promotions have been made, viz.: Staff Surgeons: Robley Henry John Browne, Edward Butler Pickthorn, and John Falconer Hall to be Fleet Surgeons (dated Nov. 9th, 1904). Surgeons: Percival Kent Nix and William Jackson to be Staff Surgeons (dated Nov. 10th, 1904).

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned has been appointed a Surgeon, viz.:—William George Barras (dated Nov. 10th, 1904).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Majors are placed on Retired Pay (dated Nov. 16th, 1904):—A. E. C. Spence and C. J. Holmes.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Cardigan: Surgeon-Lieutenant A. Thomas to be Surgeon-Captain (dated Nov. 12th, 1904). *Rifle:* The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment): Surgeon-Major W. H. Miller resigns his commission (dated Nov. 12th, 1904). 1st (Brecknockshire) Volunteer Battalion the South Wales Borderers: Surgeon-Lieutenant J. Griffiths to be Surgeon-Captain (dated Nov. 12th, 1904).

VOLUNTEER OFFICERS' DECORATION.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force:—*Home District: Artillery:* 2nd Middlesex Royal Garrison Artillery (Volunteers): Surgeon-Captain (Honorary Captain in the Army) Atwood Thorne. *Southern District: Rifle:* 3rd (Duke of Connaught's Own) Volunteer Battalion the Hampshire Regiment: Brigade-Surgeon-Lieutenant-Colonel Edwin John Hunter. *Western District: Rifle:* 3rd Volunteer Battalion the South Wales Borderers: Surgeon-Lieutenant-Colonel James Rolands Essex. *Eastern District: Rifle:* (3rd Cambridgeshire) Volunteer Battalion the Suffolk Regiment: Surgeon-Lieutenant-Colonel John Parkinson Atkinson. *North-Western District: Rifle:* 1st Volunteer Battalion the Manchester Regiment: Surgeon-Lieutenant-Colonel William Mitchell Roocroft. *Scottish District: Rifle:* 4th (Stirlingshire) Volunteer Battalion Princess Louise (Argyll and Sutherland Highlanders): Surgeon-Major Alexander Duncan Fraser.

THE NEW MILL HILL BARRACKS.

Anyone desirous of seeing the latest design and construction in the way of military barracks could not do better than pay a visit of inspection to the new barracks at Mill Hill. The Mill Hill scheme is not, we believe, a new idea but was adopted long ago by the military authorities and plans of the buildings were subsequently designed and drawn up for the purpose. The site is a large and open one and the only objection that can be urged against it is that its distance from London is likely to prevent people making themselves personally as well acquainted with the barracks as is desirable. All we can say is that, speaking generally, they are capital soldiers' barracks and a vast improvement on the old style of building. The soldiers' barrack rooms are spacious, lofty, well lighted and intended for the accommodation of not more than 12 soldiers per room. They can be used, as they should be, almost exclusively as dormitories, for dining halls are separately provided, and have excellent kitchens adjoining them. The baths are numerous and of the enamelled kind, with no stint of hot and cold water. The recreation room, which also serves for a theatre and refreshment bar, the library, reading and writing room, canteen, and the usual adjuncts to a soldiers' barracks are likewise all very good of their kind. The married quarters are excellent and nothing seems to have been neglected to secure as much privacy and domestic comfort for their occupants as is practicable. Taking it altogether we think the War Office authorities may fairly be congratulated on the result of their labours at Mill Hill.

THE WAR IN THE FAR EAST.

There is but little to be chronicled concerning the campaign in the Far East. As regards Port Arthur, it has become an almost stereotyped expression to say that the fortress, however hard pressed and distressed, still holds out, although it is slowly falling piecemeal. The sapping and mining and occasional assaults on the part of the Japanese are steadily going on and meanwhile diverting a large body of Marshal Oyama's forces from taking any part in the operations elsewhere in Manchuria. The wife of the resolute defender of the fortress (General Stoessel) has throughout the siege devoted herself to the care of the sick and wounded and has recently written to a merchant in Moscow urging him to raise funds for their relief. From this and other communications there can be no doubt as to the hardships and sufferings of the garrison. It is reported that General Stoessel, owing to his wound, has been compelled to go into hospital from which he nevertheless continues to issue his orders for the defence of Port Arthur.

As regards the military operations elsewhere there has been no movement of importance on the part of either belligerent, but it seems highly probable that heavy fighting on the Shaho will be renewed before long. The carrying capacity of the Siberian railway, which has been greatly improved of late, will be severely tried during the winter in supplying the enormous Russian force already in the field with all their needful requirements and in conveying the sick and wounded away from the hospitals in Manchuria to Russia. We have heard but little of the practical working of the Russian hospital system in this campaign, but that of the Japanese is described as excellent and independent observers have been much struck with all that they have seen of their medical science and nursing skill in the field and of the equipment and management of their hospitals. Their regimental medical provision is one of their strong points as compared with that of our own army. As regards the Baltic squadron, we may note that Madame de Nelidoff, the wife of the Russian Ambassador at Paris, has recently received a telegram from Admiral Rojestvensky from Dakar, thanking the French nation and announcing that the splendid floating hospital *Orel* had joined his squadron. An order of the day to the Manchurian army gives the number of Russian wounded brought to Mukden and beyond from Sept. 8th to Oct. 24th as 828 officers and 28,479 men, and the number of sick as 193 officers and 3827 men. The general staff at Tokio has contradicted the report, emanating from a Russian source, of the death of General Kuroki, which is characterised as unfounded and absurd.

A telegram from the *Times* own correspondent dated Paris, Nov. 15th, states that the collection for the Red Cross Society in the St. Petersburg churches amounted to 60,000 roubles (£6,410) and that throughout the whole Empire to 400,000 roubles (£42,735).

The Omsk correspondent of the *Novosti* sends an account to his paper of the report submitted to the Omsk Medical Society on the humane nature of the Japanese bullet. The report included the following figures. The distribution of the wounds over parts of the body were 42·03 per cent. in the lower extremities, the thighs bearing almost the half, or 20 per cent., of this total. After the thigh comes the lower part of the leg with 15·68 per cent., then the foot with 4·74 per cent., and finally the joints with 1·68 per cent. The wounds were equally distributed between the right and the left sides. The upper extremities bore 24·74 per cent. of the wounds, of which the shoulders had to bear 6·78 per cent. Respecting the thorax, the abdomen, and the head, the percentage of through and through wounds was 18·47 and generally, as already quoted from reports by medical men from the seat of war, the wounds were of such a nature as to require the surgeon's attention but very rarely. There were seven cases of bullets having passed through the brain. One was that of a sergeant-major. The bullet entered by the centre of the forehead, finding its exit at the occiput. The patient lay unconscious in one of the Kharbin hospitals for about a month. When he regained consciousness he appeared to suffer merely from depression of spirits. Another case was that of a private who had a bullet wound a little above and further forward than the right ear, and extending almost to the top of the head. He developed paralysis in the left arm and leg. The paralysis has almost left the leg but the arm is still restricted in its movements. Hope is entertained of his complete recovery. Wounds in parts of the body not enumerated above were relatively few and slight.

The Council of the Royal Society has awarded a Royal medal to Colonel David Bruce, R.A.M.C., F.R.S., for his researches in the pathology of Malta fever, nagana, and sleeping sickness, and especially for his discoveries as regards the exact causes of these diseases.

Correspondence.

"Audi alteram partem."

AMYL NITRITE *v.* ADRENALIN IN HÆMOPTYSIS.

To the Editors of THE LANCET.

SIRS,—Under the head of "The Medical Treatment of Deep-seated Hæmorrhage"[1] I have pointed out the rapid hæmostatic action of inhalation of amyl nitrite in phthisical and cardiac hæmoptysis. The object of this article is to compare this action of amyl nitrite with the action of adrenalin, a drug which has been widely advocated of late in the same circumstances but which operates through an essentially different mechanism. And I shall endeavour to make the comparison in the main from a physiological standpoint. The dominant spirit of modern medical science is inductive or analytical. This arose as a salutary reaction against the almost exclusively deductive or synthetic spirit which prevailed in the past. Nevertheless, it may be that the reaction—as is the way with most reactions—has in its turn proceeded too far. At least, it can do no harm—it may even prove of advantage—to review from time to time some of the conclusions of inductive science from a deductive standpoint. In any such review of pathological problems we have no option but to start from established physiological principles. In all cases of hæmorrhage there are two proximate essential factors. At the bleeding point there must be a solution of continuity of the wall of the vascular system and an intravascular blood pressure exceeding the extravascular pressure of the tissues. Neither factor alone could result in hæmorrhage. From this it follows that in order to check hæmorrhage we may (1) restore the continuity of the wall of the vascular system, as is done in surgical hæmostasis; (2) supplement by artificial means the extravascular pressure of the tissues, as is done in some forms of compression; or (3) reduce the intravascular blood pressure. None but the last of these means concerns us here, since we are considering only hæmoptysis, a hæmorrhage which is inoperable and inaccessible to general compression of the tissues.

Now the blood pressure at any given point in any given vessel may be reduced in three ways, and in three ways only: (1) by diminishing the systolic force of the heart; (2) by diminishing the general or aggregate peripheral resistance in the circulation; and (3) by increasing resistance in the bleeding vessel on the cardiac side of the bleeding point. The first indication is attained in the use of aconite which has a depressing action on the heart; the second, in the use of amyl nitrite which rapidly promotes widespread, or even general, peripheral vaso-dilation; the third, in compression exerted on the arterial trunk leading to the bleeding point, and in vaso-constriction of the bleeding vessel itself through the action of cold and of drugs such as adrenalin.

Amyl nitrite is used only for its *general* action on the circulation, which action is practically always the same. The drug promotes widespread, or general, vaso-dilation with acceleration of cardiac action. The acceleration of cardiac action depends upon the lowering of peripheral resistance and is evidently a conservative device adapted to prevent a serious fall of blood pressure. Such conservative acceleration, however, seems always less than fully adequate, for a material fall of blood pressure always does succeed the exhibition of the drug (Lauder Brunton). This fall of blood pressure commencing, as it does, at the periphery of the systemic arterial system, travels backwards in the course of the circulation through the left ventricle and left auricle into the periphery of the pulmonary arterial system. It is the fall of blood pressure in this last situation which is the proximate cause of the rapid cessation of hæmoptysis, and it was the anticipated inevitability of such fall which first prompted the use of the drug in this emergency. Unlike amyl nitrite, adrenalin is used for its local as well as for its general action on the circulation. Locally applied, adrenalin causes vaso-constriction of the arterioles of the part through its direct action on the vascular walls, and such localised action is purely salutary in hæmorrhage from the part. Given by the mouth or hypodermically adrenalin causes widespread or general vaso-constriction of the systemic arterioles with retardation of cardiac action. The retardation of cardiac action depends upon the rise of peripheral resistance and is evidently a conservative device adapted to prevent a serious rise of blood pressure. Such conservative retardation, however, seems usually less than fully adequate, for a material rise of blood pressure does commonly succeed the exhibition of the drug (Schäfer). This rise of blood pressure, commencing as it does at the periphery of the systemic arterial system, travels backwards in the course of the circulation through the left ventricle and left auricle into the periphery of the pulmonary arterial system, and a rise of blood pressure at the pulmonary periphery would of course be purely injurious in the case of hæmoptysis.

Now, there is but one way in which the injurious influence in hæmoptysis of a rise of pulmonary blood pressure so induced might be to some extent averted. The adrenalin might cause vaso-constriction of the pulmonary, in addition to vaso-constriction of the systemic, arterioles, and such pulmonary vaso-constriction might include, or preclude, the vessel immediately concerned in the bleeding. But it is more than doubtful whether adrenalin is capable of causing vaso-constriction of the pulmonary arterioles, for Dr. W. E. Dixon of Cambridge has demonstrated experimentally in the laboratory that under its use the pulmonary vessels become actually dilated. Such vaso-dilation is probably passive and dependent on the rise of general blood pressure.

The above physiological considerations and facts cast a grave doubt upon the expediency of giving adrenalin by the mouth or hypodermically in any form of hæmoptysis. And they prepare us to hear of cases in which the drug has acted harmfully. Dr. J. Gray Duncanson describes such a one.[2] In this case there seems little doubt that the exhibition of the drug was responsible for vaso-constriction of the systemic arterial system and for continuance of the hæmoptysis, for "as soon as the suprarenal treatment was abandoned the pulse became soft and bleeding ceased."

I am, Sirs, yours faithfully,

FRANCIS EVERARD HARE, M.D.,
Consulting Physician to the Brisbane Hospital; Visiting Physician to the Diamantina Hospital for Chronic Diseases, Brisbane; late Inspector-General of Hospitals for Queensland.

Nov. 6th.

[1] THE LANCET, August 20th (p. 522) and Oct. 1st (p. 942), 1904.

[2] Brit. Med. Jour., March 12th.

CANCER GENESIS.

To the Editors of THE LANCET.

SIRS,—If I have erred in omitting to read the work on "The Principles of Cancer and Tumour Formation," referred to in your issue of Nov. 12th, p. 1378, by Mr. W. Roger Williams, how much greater must not your correspondent's sins of omission be? For while he would appear to have read only the two brief articles on cancer published by me in your pages there await his study some 40 odd other papers of mine, which, by the way, contain the results obtained in upwards of 20 years devoted to research and which profess to furnish a certain, it may be modest, amount of evidence for my conclusions. I regret the sin of omission and excuse it as "only a very small one." But the book is not in the library of Edinburgh University and quite apart from books, new and old, apart from teaching and research, I find a sufficient amount of occupation in keeping an eye on the contents of some 60 scientific journals which are continually arriving from all parts of the world with results, more or less new, of scientific research. It may be admitted that there is at first sight a slight amount of resemblance between his conclusions and mine. On closer examination it is so very slight as to preclude any possible recognition of "family likeness." Really, it is as nothing when compared with the correspondence existing between my conclusions regarding tumours, benign and malignant, and those independently arrived at by Dr. Arthur Styles Vallack[1] of Bowral, N.S.W.

Though we happen to have at least one mutual friend in Sydney to my mind it is certain that Dr. Vallack wrote the whole of his paper without having any idea that his conclusions had been anticipated by anyone else. None the less, his views and mine correspond to a marvellous degree. His results, if I may say it without offence, are far more precise and to the point than those cited by your correspondent from his book; indeed, with the exception of certain things requiring a closer acquaintance with modern embryology than Dr. Vallack possesses or in his position out there can have, I would willingly endorse all he then wrote regarding tumours. But, Sirs, I should not care to do this for even the brief citations made by Mr. Williams from his own book. It is, indeed, a long time since 1888, and as it happens it was in the autumn of that year that I commenced those researches into the mode of vertebrate development which have resulted in, among other things, what is, I submit, a consistent and scientific theory of the neoplasms, benign and malignant. Indeed, it is the only one which can claim to be such. I am not in eager quest of priority in these matters. My researches are not made for purposes of personal advancement. As a fact, they have never advanced me a step. The conditions obtaining in Germany do not exist here. Hard scientific work does not lead in the direction of recognition or advancement with anything at all approaching the certainty of these which influence and protection afford. My old teacher, Professor Milnes Marshall, thought differently and he used often to say to me that in science it was only research which paid. What a sarcastic comment on fact! Were he now living he would be the first to admit the truth of what is written above and to agree that under prevailing conditions in Great Britain research in zoology and embryology was its own and sole reward, and that whether it expected to get anything else or not it would obtain nothing in face of any influence or protection opposed to it.

A recent writer, Dr. Harris H. Wilder,[2] in discussing various theories of double monsters, writes: "A most unique theory is that of Beard, which he develops in connexion with his original biological doctrine of multiple germ-cells." But, of course, there is nothing new under the sun and the fact that identical twins or double monsters arise from a single egg was known to Professor B. S. Schultze, happily still of the University of Jena, in 1854. Possibly, it could be traced to still earlier times and it would not be surprising to hear that Aristotle, Galen, or even Solomon had formed a fair idea of the true facts.[3] This goes to show that there are some things, even in your correspondent's letter, to enunciate which no research is required. In the same way Professor Haeckel can claim no priority for the discovery of alternation of generations, even for that in animals. What he did only tended to make confusion worse confounded. He is unquestionably a very great zoologist who has made numerous brilliant and important discoveries in this science. But after a working experience of embryology of 22 years I incline to think that the advance of embryology has only been retarded by many of his doctrines, which were never founded in research. He it was who did away with the creeping stolon of the jelly-fish aurelia—i.e., the "hydroid polype" stage or asexual generation discovered by Sars in 1841. The result has been that though it is a matter of ease to demonstrate this organism, for it is such, under the microscope there is only one text-book extant in which it is even mentioned. In doing this Haeckel abolished for the scyphozoa, or higher medusæ, the asexual generation upon which these medusæ arise and without the existence of which there would be no medusæ and no alternation of generations here.

There is no occasion for your correspondent politely to heave Haeckel's "Generelle Morphologie" at my head. I know it well. In fact, I was brought up upon it and on that other indigestible book, Gegenbaur's "Comparative Anatomy." Indeed, it is an open secret that like some others under this diet I should never have survived to years of scientific maturity but for the sterling substantial nourishment obtained from Huxley's classic text-books. Let me recall a date or two to your correspondent's recollection. Alternation of generations was discovered by Chamisso in 1819. At a later period, and prior to 1866, Steenstrup, Leuckart, and Carl von Baer wrote upon it. The "Generelle Morphologie" appeared in 1866 and it was not until 1874 that Celakovsky distinguished between two kinds of alternation of generations—homologous and antithetic. These are fundamentally different but I must refer Mr. Williams to my "Span of Gestation," in the appendix of which he will find a fuller account of them. I am not aware that Haeckel has ever recognised, or even suspected, the existence of any sort of alternation of generations in the vertebrata. This was first done, and in the form of an antithetic one, by the writer, though Johannes Mueller and Carl Ernst von Baer stopped just short of its enunciation many years earlier. In 1866 Haeckel had as little conception of the fundamental difference between antithetic and homologous alternation as your correspondent manifests to-day. The first passage cited by Mr. Williams from his book is, in my opinion, which I imagine will be shared by other practical embryologists, not a correct account of the facts of development. But waiving that, the alternation therein described, if it could be termed such at all, would be homologous, not antithetic. The mode of development actually carried out in any vertebrate animal is demonstrably an antithetic alternation of asexual and sexual generations. I have sometimes been told that this was a pre-convinced idea on my part. But the facts are that when the work into the mode of the development was commenced in 1888 the only "pre-conceived idea" I had was that which had been taught me by Huxley, Koelliker, Marshall, and Semper, that the fertilised egg developed directly into "the embryo." Only some four years later did the suspicion of an alternation of generations begin to dawn upon me and in all I have now devoted 16 years to research into the developmental phenomena of various vertebrate animals, from fishes to man, in the attempt to unravel the true facts. According to your correspondent I am at present the sole supporter of the view that the chorion of a mammal is the asexual generation, the hypothesis is in "such an unprecedentedly rudimentary state of development," and a chorion is only found in mammals, &c. Is Mr. Williams quite sure that at present I am the sole supporter of this view? I know that I have convinced some earnest seekers after truth and competent practical vertebrate embryologists are so scarce in Great Britain and the colonies that it would almost be a gross exaggeration to sing "we are seven"! One of the best, a man whose services ought to be enlisted on behalf of cancer research at all costs, Dr. J. P. Hill of the University of Sydney, informed me two years ago that he considered that I had proved my thesis, that the mode of development was an antithetic alternation. How does your correspondent know whether or not the "hypothesis," as he terms it, is in a "rudimentary" state? I do not think that he has read any of the memoirs published by me since 1888

[1] Arthur Styles Vallack: A Contribution to the Study of Neoplasms, Australian Medical Gazette, April 20th, 1904, pp. 153–158.

[2] Harris H. Wilder: Duplicate Twins and Double Monsters, American Journal of Anatomy, vol. iii., 1904, p. 424.

[3] For example, compare "Solomon's Judgment" with the erroneous idea of a splitting of the germ, urged by Mr. Williams, Dr. Wilder, and many embryologists and pathologists.

with the exception of the two short papers published in THE LANCET. Nor is there anything to show that his acquaintance with other embryological work, such as that of Hill, Hubrecht, Duval, and others, needed to elucidate various points, can be considered such as one who judges so harshly ought to possess. Of course, the chorion as such is peculiar to mammals but there is such a thing as comparative embryology, and it is not at all difficult to show that there is one mode, and one only, of development for vertebrate animals. The chorion of mammals is homologous with, for example, the blastoderm and other transient structures in a fish-development, and here, as little as elsewhere, the blastoderm never becomes converted or "metamorphosed" into the fish.

The kind of development of which your correspondent speaks is what is generally termed "direct development." For the higher animals I deny the possibility of this point-blank. It never has been established by observation in any case for the very good reason that it has no existence. In fact, even now almost all researches in development are commenced on the unproved assumption of the truth of direct development—that is, that it is the task of the fertilised egg to produce "the embryo," neither more nor less. If there be such a thing as direct development in the higher animals it should be easy for some embryologist, and again I challenge any one of them to do it, to produce a diagram of the life-cycle from egg to egg, based on actual preparations and showing its course and how germinal continuity is attained. In particular he must display the origin and history of the germ cells. He must demonstrate, what though very generally believed is impossible, that the products of the cleavage are so many embryonic bricks. With the same preparations I will then show that the whole thing is based in error or that there are important links missing in the chain. The crucial point upon which any theory of direct development utterly collapses is the source and epoch of appearance (pre-embryonic) of the germ cells. In truth, in asking the supposed embryologist to carry out the above apparently simple task, I have requested him to perform a stupendous miracle.

For the information of medical men in general and of psychologists in particular, I recently published a fairly long account of my results, with a list of original memoirs, in the *Review of Neurology and Psychiatry*.[4] Surely, it is not too much to ask that those who attack my conclusions should at least read and study this one paper? As to the distinction made by me (not by Weismann, for it is no part of his doctrines) between somatic and germ cells, that is entirely a matter for research and observation and I decline to defend the conclusions when they are attacked merely on *a priori* grounds or for reasons not based on work done by an opponent, or on presumed facts not extant in the literature of science. If your correspondent should believe that any progress worth mentioning in this weary pilgrimage after truth will, or can, be made by the slightest reliance upon Spencer's physiological units, Darwin's pangenesis, or Haeckel's perigenesis of the plastidule—all like Weismann's biophores and de Vries's pangens mere figments of the imagination—I venture to disagree with him totally. Your correspondent has a good deal to say about Weismann's doctrines. The latter believes in direct development, recapitulation, somatic origin of germ cells, and many other things, the possibility or the occurrence of which I deny. I thought that I had thrown off the last shred of "Weismannism" in the lecture which evoked your correspondent's letter. Your correspondent need not imagine that there is very much resemblance between Weismann's views and mine. In none of Weismann's publications since 1890 will a single reference to any of my work be found. In a paper cited below my friend, Dr. W. Ford Robertson,[5] has taken the trouble to analyse and to compare Weismann's views and mine. If Mr. Williams will consult that he will at once be impressed by the width of the gulf subsisting between the two sets of conclusions.

Mr. Williams started his letter by emphasising the agreement supposed by him to subsist between his conclusions as to tumours and mine. Further on he would seem to have forgotten this fact and much of his letter goes to show how egregiously wrong I have been. It was ever thus. Ever since I entered Semper's laboratory in 1882 my finds have always been wrong. In the earlier years my researches dealt with the nervous system but they invariably met with the bitter and strenuous opposition of His, Koelliker, and others who never took the trouble to examine a sufficient and suitable material. It is about ten years since I wrote my last published work upon nerve and ganglion cell and to-day my conclusions of earlier years are being advocated by Dohrn, Oscar Schultze, and others in emphatic terms beside which any words of mine pale in insignificance. Ten years ago alone I had to defend these conclusions against all embryologists. Now they are becoming generally accepted. So it will be with the neoplasms ten years hence and even sooner.[6] It does not matter whether the pathologists now accept these conclusions or not. They will one day, though I may not be alive to be witness of it. I utterly repudiate the whole legion of their supposed embryological views as to the etiology of neoplasms as a mere travesty of embryology, and so we are equal. The degree of their acceptance will always be directly proportional to that of their acquaintance with, and appreciation of, the facts of modern embryology, for, sad to say, there is no science of the pathology of the neoplasms. There is a science—and a very wonderful and momentous one it is—at present without a habitation to call its own and merely the ill-used handmaiden of many sciences. This is the science of the "Werden" and "Vergehen" of living things—comparative embryology. The doctrine of the tumours, benign and malignant, is a chapter of this science, not an integral portion of pathology.

I am, Sirs, yours faithfully,

Nov. 14th, 1904. J. BEARD.

[4] J. Beard: A Morphological Continuity of Germ Cells as the Basis of Heredity and Variation, Review of Neurology and Psychiatry, vol. ii., 1904. Edinburgh: Oscar Schulze and Co.

[5] W. Ford Robertson: The Pathology of Chronic Alcoholism, British Journal of Inebriety, April, 1904.

[6] On the appearance of my first paper on cancer in THE LANCET in 1902, a very learned zoologist and comparative anatomist, Professor C. B. Howes, wrote to me: "If you are right about cancer you have solved the problem of the age."

INDIAN UNIVERSITY DEGREES AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—I beg to draw your attention to a mistake made by you in your footnote to a letter by Mr. Darû in THE LANCET of Nov. 12th regarding the qualification of L.M.S. In all the Indian universities L.M.S. is a degree granted at a convocation by the chancellors of the universities, just as the degree of M.B. is granted in England. L.M.S. as a registrable *diploma* is granted by the Medical College in Ceylon where there is no university existing. The University of Bombay grants only two medical degrees, the degree of L.M.S. and the degree of M.D. A proposal passed by the Senate to change the L.M.S. into M.B. degree has not yet received the sanction of the Government.

The Bombay Government would like to have the degree of L.M.S. made of an inferior kind and a new degree of M.B. instituted, but post medical graduates naturally resent the degree they have obtained being brought to a lower grade. The other Indian universities grant such two degrees, one L.M.S. and the other M.B., but the custom is prevalent from the time they have been granting medical degrees. I know the Royal College of Surgeons has allowed some Bombay men with the degree of L.M.S. to proceed for primary Fellowship without going for other Conjoint examinations, but why it objects now I cannot tell. I send you some proof which shall convince you that your impression about the L.M.S. qualification was incorrect.

I am, Sirs, yours faithfully,

S. B. GADGIL.

University College Hospital, London, Nov. 14th, 1904.

*** Mr. Gadgil has inclosed us his testamur from the University of Bombay which speaks of "the degree of Licentiate of Medicine and Surgery."—ED. L.

THE DENTAL HOSPITAL, BIRMINGHAM.

To the Editors of THE LANCET.

SIRS,—I see in THE LANCET of Nov. 5th a reference to the Birmingham Dental Hospital. Your correspondent conveys, I think quite unintentionally, an inaccurate impression. His

reference to a member of the general committee, who, by-the-bye, is not the chairman, cannot, I feel sure, reflect the broad-minded sense of the great body of the medical profession in Birmingham. I believe that we have the full sympathy of our medical *confrères* in the large amount of preventive and restorative work carried out in the above institution, nor do I believe that they would desire to prevent any gentleman from devoting his leisure in helping to administer the various charities of this city because of his personal views on certain subjects. You will be pleased to hear that we hope to have the new building open within six months and I trust clear of debt. I am, Sirs, yours faithfully,

Birmingham, Nov. 9th, 1904. FRED. W. RICHARDS.

HUMAN RAYS AND THEIR SPECTRA.

To the Editors of THE LANCET.

SIRS,—I am afraid I am not one of those who have the gift of "inner perception" with which Dr. J. Stenson Hooker is endowed but it is interesting to learn from him that the "n" rays have a spectrum "just like a ray of white light." It is still more interesting to learn that the mental characteristics of a man are inseparably bound up with the colour of the rays he emits. For example, deep red rays denote a very passionate man; pink, good and true; orange, ambitious; deep blue, a deep thinker; yellow, the art lover; grey, the anxious one; muddy-brown, low and debased; light blue, devotional; light green, progressively minded; dark green, mentally ill; and so on. As I am one of those who believe that man's actions are determined by heredity, though modified by his environment, have we not here a means of settling many a disputed question? Is it conceivable that the bad man could be different seeing that his rays are muddy-brown? Perhaps, however, they are that colour because he is low and debased. It is, however, the remarkable and astounding evolution that has taken place in man's colour sense in the last 20,000 years that arrests one's attention. At the beginning of that time he could only distinguish one colour (which one is not stated) and by the time of the Greeks he had added red and black, and later still yellow, and then green. Poor fellows, they did not know the grass was green.

As protective colouring has played a great part in the evolution of species, and as the colour sense is certainly well developed as low down in the animal scale as the crustacea, if not lower, one wonders why man should have been the exception. One is forced to ask, Was the imperfection not in the language instead of the visual sense? Might it not just be as well to read "colour sense" by Grant Allen as it is to read Max Müller? But, as I have said already, I have not the "inner perception" and that may explain my inability to grasp these truths.

I am, Sirs, yours faithfully,

Liverpool, Nov. 13th, 1904. C. R. NIVEN.

THE LONDON COUNTY COUNCIL AND VISION.

To the Editors of THE LANCET.

SIRS,—I am one of the men referred to in the annotation under this heading in THE LANCET of Nov. 5th, p. 1304. The note or instruction to which you refer is private and for the information only of candidates for employment in the elementary schools of the London County Council whose vision is found to be defective. The greater number of these candidates are young teachers and children who are about to leave school and be trained for the teaching profession. Formerly it was customary to advise such candidates to seek the assistance of charity at hospitals but now the officer who administers this matter, wishing to inculcate a nicer and more independent principle, has arranged with the gentlemen whose names appear in that note to examine and to advise such candidates at a uniform and moderate fee. I do not consider two guineas a "moderate" fee in these circumstances, nor even in the case of teachers of longer standing whose only defect is presbyopia and who are thereby induced to resort in such large numbers to seek advice at the hands of incompetent spectacle dealers or the out-patient departments of our hospitals. My name was not inserted in the note without my approval.

I am, Sirs, yours faithfully,

HARRY CRITCHLEY, M.D. Edin.

Bentinck-street, W., Nov. 12th, 1904.

CANCER OF THE CERVIX COMPLICATING LABOUR.

To the Editors of THE LANCET.

SIRS,—May I correct a slight error in the report in THE LANCET of Nov. 12th of my reply to remarks on my paper with the above title? What I said was that my objection to vaginal Cæsarean section was due to the risk of local *implantation* (of cancer cells). Dr. G. E. Herman and Dr. Amand Routh prefer the conservative Cæsarean section to Porro's operation with the serre-nœud in inoperable cases of cancer complicating labour but they give no sufficient reason for their preference. I believe Porro's operation with extraperitoneal treatment of the stump is safer than the conservative operation in these cases. Sarwey gives the mortality of the conservative operation at about 60 per cent. "L'Operazione Cesarea Porro" (1901) shows the mortality of the Porro operation with extraperitoneal treatment of the stump to be about 35 per cent. Unless Dr Herman or Dr. Amand Routh can give more recent and extensive statistics in support of their preference I ask your readers to believe that the Porro operation with extraperitoneal treatment of the stump is safer (as it is quicker and attended with less hæmorrhage) than the conservative operation. May I ask anyone who has had experience of these cases to publish complete statistics with the after-histories?

I am, Sirs, yours faithfully,

HERBERT R. SPENCER, M.D. Lond.

Harley-street, W., Nov. 12th, 1904.

ACTINOMYCOSIS.

To the Editors of THE LANCET.

SIRS,—The early symptoms noted in one of the cases of actinomycosis described by Dr. Robert Knox in THE LANCET of Oct. 29th, p. 1204, resemble very closely those which I observed in a case under my own care. The patient, a woman, aged 62 years, had been attended by me during the last three or four years. She was in a feeble condition and apparently on the downhill of life. She had a slight tickling cough and now and then suffered from bronchitis, but the expectoration was never in any great quantity. She had very foul teeth and latterly became somewhat anæmic-looking and grew thinner. She had also an enlarged liver and a gall-bladder easily palpated. On August 17th, 1904, I was sent for and found that she had a slight patch of pneumonia at the base of the right lung. Her evening temperature never rose above 103° F. and was usually down in the morning. A week afterwards she complained of a pleuritic pain over the pneumonic patch; this was followed by a pleural effusion. The sputum at this time was more abundant, very thick, viscous, extremely offensive, yellowish-green in colour, and contained numerous yellowish granules of about the size of a pin's head. I sent a sample of it to our public health laboratory and Dr. J. F. Hodgson, the assistant medical officer of health, sent me the following report. "The sputum is characteristic of actinomycosis of the lungs. The granules contain the fungus of actinomycosis. Filamentous forms only are present, club-shaped bodies being absent. The filaments stain well with Gram's method. Numerous pus cells and pyogenic cocci are present." The continued hectic temperature and sweatings led me to think that the effusion was now purulent. The patient, who refused any operative interference, gradually sank and died from exhaustion on Sept. 6th. Permission was granted for a very limited post-mortem examination, which Dr. Hodgson made with me. The effusion was purulent and the part of the lowest lobe of the right lung in contact with the empyema was pneumonic. The lungs were very pigmented and on section were apparently normal. The liver was enlarged and displaced downwards by the empyema. The gall-bladder was packed with calculi and the cystic duct by an impacted stone. The rest of the organs as far as could be seen were apparently normal. The pneumonic portion of the right lung and some of the pus from the empyema were removed for further examination. I append Dr. Hodgson's report. "The portion of the lung removed is in a state of grey hepatisation, but I am unable to demonstrate any trace of the streptothrix actinomycotica in the lung tissue or in the pus." Death was no doubt the result of the pneumonia, the actinomycotic infection being then confined to the bronchi and not having extended far into the lung tissue. I am, Sirs, yours faithfully,

Halifax, Nov. 12th, 1904. G. MCWILLIAMS HENRY.

INTOLERABLE INGRATITUDE.

To the Editors of THE LANCET.

SIRS,—Has not Mr. Malcolm M. McHardy in expressing indignation at "intolerable ingratitude" forgotten that he is primarily a citizen of the State and, quite secondarily, a medical man with, it is to be hoped, a sufficient practice? Is it not usual with solicitors to call medical witnesses at the last moment by telephone or telegram and further save their time by getting their evidence taken at once? Why this was not done in his case Mr. McHardy perhaps may be able to say.

I am, Sirs, yours faithfully,

Water-lane, S.W., Nov. 10th, 1904. F. J. FIELDER.

To the Editors of THE LANCET.

SIRS,—Mr. McHardy appears to have been badly hurt. His philanthropy has been grossly prostituted. He has been indecently assaulted and there is something further about a cur which has bitten his hand!

To what do these various injuries really amount? He was deemed, rightly or wrongly, a necessary witness in an action at law and his attendance was procured by the only available method of the common subpœna. Of what can he justly complain? The fact that he is a surgeon does not place him above the law, though it certainly does give him privileges denied to ordinary individuals.

I am, Sirs, yours faithfully,

Nov. 11th, 1904. AN AMUSED SOLICITOR.

THE DELIVERY OF BREAD.

To the Editors of THE LANCET.

SIRS,—May I call attention to the insanitary treatment of bread between the bakehouse and our breakfast tables. Each morning when I walk from my rooms to my club for breakfast at 8.30 I pass a baker who is probably one of the leading bakers in London. Trays of loaves are on the pavement, often surrounded by dogs attracted by the crumbs; overladen hand carts, with dirty baskets covered with mud and bumping on the road, full of loaves, on the handles, are just starting for the morning delivery. Generally, so overladen are these carts, several loaves fall off at starting and roll about the road, only to be replaced. So disgusting is the whole thing I have insisted on every loaf being sent in brown paper by separate delivery. I think if attention was called to this by your journal, considerably more care and cleanliness might ensue.

I am, Sirs, yours faithfully,

Nov. 14th, 1904. REGINALD BARRATT.

A CASE OF EXOPHTHALMOS IN THE NEWLY BORN.

To the Editors of THE LANCET.

SIRS,—Cases of exophthalmos in the newly born must be commoner than is usually supposed; at least, I had a case some time ago. It was a natural labour case attended by a midwife. The right eye bulged out in an extraordinary way. After a few weeks the eye slowly resumed its proper position with, apparently, no evil results to vision.

I am, Sirs, yours faithfully,

I. CRAWFORD, L.R.C.P. & S. Edin.

Tredegar, Mon., Nov. 16th, 1904.

THE PRINCIPLES OF SURGERY AND THE TREATMENT OF ACUTE ABDOMINAL AFFECTIONS.

To the Editors of THE LANCET.

SIRS,—I read with the greatest interest Mr. Charles A. Ballance's remarks on appendicitis in THE LANCET of Oct. 29th, p. 1196. It is quite refreshing to find the great principles of surgery made to apply equally to an inflammation of the palm of the hand and to an inflammation of the appendix. I am convinced that Mr. Ballance is right when he argues that operation is the proper treatment for all cases of appendicitis and that the sooner it is resorted to the better is the outlook for the patient. I cannot agree with him, however, when he says that 50 per cent. of the practitioners of the country will disapprove of his conclusions. On the contrary, I believe that a very much larger proportion than he thinks will be in accord with his ideas. Any man who has been in general practice for even a few years must be able to look back on some cases of this most anxious and dangerous affection. If his experience is at all similar to mine he will be unable to recall a single instance in which he advised operation too soon, but more than one perhaps in which it was done too late.

I am, Sirs, yours faithfully,

Nov. 15th, 1904. A GENERAL PRACTITIONER.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The New Sanitary Department for India.—The Trials of the Tibet Expedition.—Medical Appointments to Kabul.—The Plague Epidemic.—The Rangoon Drainage Scheme.

As has been foreshadowed there is to be a new sanitary department for India, and Major J. T. W. Leslie, I.M.S., has been appointed as the first Imperial Sanitary Commissioner. This office will be distinct from that of the Director-General of the Indian Medical Service. The head of the new department will, of course, give his whole time to the work but his position with regard to provincial governments will be consultative rather than authoritative. An important part of his duties will consist in the organisation and direction of research throughout India, as it is contemplated to establish several fully equipped institutes in different parts of the country for the study of health problems. The central laboratory will be devoted mainly to original research of a general character and the manufacture of curative sera. The provincial laboratories will be chiefly utilised for diagnostic purposes and for special research connected with local conditions. The existing laboratory at Parel, Bombay, will continue to carry on the manufacture of the plague prophylactic. There is an enormous field of work before these institutions and upon the head of this new sanitary administration will fall the organisation of the work. For research all seems well, but for the carrying out of more practical sanitary work we are not yet vouchsafed any scheme. Probably this part is to be left to the provincial governments—at any rate the powers of the Sanitary Commissioner are not to be authoritative, as improvements will largely depend upon local resources.

When the Tibet expedition was on its way to Lhasa I gave your readers an account of some of the physical discomforts attendant upon the high altitudes. On its return further trials have had to be borne. The march over Pharo plain was in snow knee-deep and the fearful glare of the sun caused dozens of men to be stricken with snow blindness. The blind had to be led by their comrades and the sight of strong, stern soldiers following on a bit of string like blind beggars is described as having been most affecting. Progress was, of course, very slow and as the depth of snow obliterated the road the difficulties were enhanced, many men stumbling against fallen trees. The camp had to be pitched in snow and slush. The work of the rearguard was so well performed that not a man was missing. The exposure played havoc, however, and many of the followers succumbed to pneumonia.

It is reported that Major Cleveland, I.M.S., from Poona, is proceeding to Kabul as surgeon to the Amir of Afghanistan. Mrs. Cleveland and Miss Brown go as lady doctors and Dr. Gholam Nabbi is also appointed. The mission is unofficial, Major Cleveland being merely lent by the Government and the others are proceeding on their own account.

The plague epidemic has during the past few weeks been gradually recrudescing, over 16,000 deaths being reported each seven days. The Bombay Presidency reports 9801 deaths for the week ending Oct. 20th, a few hundred less than during the previous week. The United Provinces return an increase from 984 to 1248 and Central India from 1548 to 1616. Bombay city shows indications of a revival with 69 deaths, Karachi returns 13, the Madras Presidency 540, Bengal 180, the Punjab 400, the Central Provinces 661, Mysore 770, Hyderabad 494, Rajputana 473, and Kashmir 27. These figures are not hopeful, as they show how widespread are the developing centres of infection. Calcutta is quiet, only single figures being reported weekly.

The Rangoon drainage scheme proposed by Mr. Ault, of Messrs. Shone and Ault, is likely to be accepted. It will be remembered that the Shone system was partially adopted for

this city as far back as 1885, but the population has vastly increased since then and the drainage has been in a defective condition for some time past. Parts of the town are said to have a greater density than any part of London. It is suggested that an engineer should be appointed to the sole charge of the water and sewage works and also to relieve the health officer of his duties with regard to conservancy. Larger pipes are to be installed and other changes made in order to enable the ejectors to deal with the flow of sewage for some years to come. The committee has agreed to call for specifications, plans, and estimates and has approved of the re-organisation of the engineering department.

Oct. 27th.

TYPHOID FEVER AND THE WATER-SUPPLY AT WASHINGTON, PITTSBURG, AND ALLEGHENY.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Pittsburg, Pennsylvania, Nov. 2nd.

IT is not at Philadelphia only that crude sewage emanating from the numerous inhabitants of many towns and villages drains into the river above the water intake of the town supply. How this sewage-soiled water is served unfiltered to the ardent apostles of water drinking in the Quaker City has already been described.[1] The endemic prevalence of typhoid fever and the high death-rate that results are a scandal, not to say a crime. Surely Philadelphia, to harmonise with the austere character of its Quaker and Pilgrim founders, should be pure in all things but more especially in the water which it by law compels the people to drink. For other but equally valid reasons the great Federal capital should also be above all reproach in such matters. Such, however, is not the case. Washington is not a town in a State, governed according to the State law by an elected municipality. It stands in the Federal District of Columbia: an area of 100 square miles cut out of the territories that belonged to Maryland and Virginia. Here the central Government, the Senate, and the House of Representatives dominate without being troubled by local politics. The President and the Congress nominate a Board of Commissioners to attend to the administration of the District of Columbia and the inhabitants have no vote in regard to local affairs; there is no elected municipality. So there is at Washington an example of what centralisation can do; for the national Government appoints persons whom it conceives to be competent administrators, without having to endure local pressure or to consider local prejudices. In these circumstances it was interesting to note what differences might result from this very different method of administration. Yet it must be confessed at once that, so far as the water-supply is concerned, there is no difference. At Washington, as at Philadelphia, the sewage-tainted water is taken from the nearest river and delivered unfiltered to the population. It is true that a large sum of money is being expended in the building of filtration beds, both at Philadelphia and at Washington but it was not to-day or yesterday that the necessity of a pure water supply was discovered. The pagans of ancient Rome and the Moslem Moors of Spain have left traces of their splendid aqueducts that should put to shame the Puritan water drinkers of America. Here is Washington, with its Capitol overlooking the surrounding country, impressive and suggesting the majestic force and dignity of the government of a great nation. Yet under its vast dome, where the legislators and statesmen of all the States congregate, no method has yet been devised of securing the very first of all necessary elements—pure water. Some laws, I was assured, did exist to prevent the pollution of rivers but no one seemed to imagine that there was the slightest chance of their being enforced.

All British sanitary reformers have bitterly complained that our Rivers Pollution Act is not applied successfully throughout the country. But it has been applied in some instances. The number of these instances is ever increasing and, on the other hand, where the rivers are polluted the cities are careful that such water is filtered before people are allowed to drink it. When this is not done or is badly done and typhoid fever consequently occurs with more than usual frequence, the British central Government holds a special inquiry and brings pressure to bear on the local authorities. The counterpart of our Local Government Board inspectors does not seem to exist in the United States, so that local authorities may continue needlessly to sacrifice the lives of those under their administration without being called to a better sense of their duty by higher and more enlightened officials. For years at Washington, as at Philadelphia, the statistics have proved the abnormal prevalence of typhoid fever. This has been allowed to take place in the political capital of the United States, in the very place where the national, the central, Government of all the States has full power to set an example to each individual State. Here, at least, the collective wisdom of the entire nation should long ago have shown to the local administrations of the States how pure water can be procured and the prevalence of typhoid fever very materially reduced. Some good examples have been given at Washington, notably in regard to the surveillance of the milk-supply and the isolation of those who suffer from, or who have been in contact with cases of, infectious disease, but the city is much behind the age in regard to its water-supply. Therefore there are many deaths from typhoid fever and intestinal diseases; indeed, it was only on Feb. 4th, 1902, that an Act was passed rendering obligatory the notification of all cases of typhoid fever occurring in the District of Columbia. The official report of the Commissioner governing that district states that each registered physician was at once informed and blank forms were forwarded to him so that he might comply with the law. Nevertheless, it adds that "it is certain that some, probably many, cases of this disease were not reported in the period immediately following the enactment of the law." Notwithstanding, from Feb. 26th, 1902, to June 30th of that year, 200 cases of typhoid fever were reported resulting in 22 deaths. But the total number of deaths attributed to typhoid fever is 193 in 1900-01 and 206 in 1901-02. The total population was estimated in June, 1902, at 286,826 and the general death-rate at 20·73 per 1000. The average annual death-rate for ten years reckoned from 1892-93 to 1901-02 is 21·51 per 1000. This is a high death-rate for so small an aggregation of population living in the city of "magnificent distances"—that is to say, where the houses are well separated from each other by noble tree-planted avenues, by gardens, and by open spaces. Also there are comparatively no poverty and no unwholesome industries. In such favoured circumstances the death-rate ought to be very low. During the last two or three years there has been some improvement, due doubtless to the more effective control in regard to infectious diseases and to milk-supply, as mentioned above. Consequently with time and with the new water-supply, whenever that is ready, the city of Washington will be more worthy from the sanitary point of view to take rank as the capital of the United States.

Holding also very high rank by reason of its immense trade and wealth stands the city of Pittsburg. The surrounding district yields more than 58,000,000 tons of coal annually. Every year more than 8,000,000 tons of iron ore are manipulated in this, the "Iron City." It is also the centre for oil fields which supply some 50,000,000 barrels of petroleum per annum and the value of its manufactures exceeds £21,000,000 per annum. What the Quakers and the good families with long pedigrees who influence public opinion at Philadelphia failed to accomplish; what statesmen and centralised administration have not been able to do at Washington, this has likewise been neglected by the iron kings and the oil lords in the wealth-accumulating cities of Pittsburg and Allegheny. There the temperance legislation of Pennsylvania is also in force, with the result that, at least on Sundays, all who are away from their own homes or who live in hotels are compelled to drink sewage more or less diluted.

Pittsburg proper is situated on a tongue of land formed by the junction of the Monongahela and Allegheny rivers. Pittsburg has now 365,000 inhabitants and Greater Pittsburg about 100,000 more, while on the other side of the river Allegheny is the city which bears that name and has a population of 140,000. Between the two rivers some 250,000 persons are supplied by the city waterworks which were commenced in 1870 and finished in 1890. These are pumping works. The water is taken above and beyond the town but not very far away. The river Allegheny has a course of about 280 miles above the intake. On either side there are ledges formed in the rocky bed of the river and here are built towns, villages, and numerous works or factories which all drain directly into the river. Altogether

[1] THE LANCET, Nov. 5th, 1904, p. 1315.

the sewage from 500,000 to 600,000 persons drains directly into the Pittsburg water-supply. No attempt whatsoever is made to treat or to purify such sewage.

A private company takes some water from the Monongahela river about a mile above the town and supplies it to those who live on the south side of this river and there is also a little water taken further down from the Ohio which is here formed by the junction of the two rivers. But these rivers are all contaminated with sewage. They also contain free sulphuric acid. This corrodes boilers very quickly. The peculiarly acid reaction is due to the presence of a large quantity of minerals, notably pyrites-bearing coal. This acidity, however, would appear to have no action upon the bacteria which flourish to an alarming extent. Both rivers are fair rivals in this respect. The result is that typhoid fever prevails in an endemic manner throughout the district. During the ten years ending 1900 the average number of deaths from typhoid fever is stated by the municipal authority to have been 24·9 in January, 25·5 in February, 20·4 in March, 18·2 in April, 16·6 in May, 13·3 in June, 17·3 in July, 28·2 in August, 28·3 in September, 27·7 in October, 19·8 in November, and 22·5 in December. In that period of time the minimum number of deaths from typhoid fever per annum is set down at 61·9 per 100,000 of the population, the maximum at 144·3, and the average at 90·11. The endemic character of the disease is thus very clearly demonstrated though there is an accentuation in the autumn. Indeed, the population is now so inured to the fever that an increase of cases generally accompanies any special accentuation of prosperity. This means that many strangers come from other parts of the country to share in the good times, and as they are not accustomed to the poisonous water-supply they fall ready victims. As one of the sanitary officials remarked, if the inhabitants of Pittsburg had volunteered for service during the late Boer war they would not have suffered like the British troops from typhoid fever. At the same time I was informed that there was no sewage disposal scheme in existence in any way likely to prevent the contamination of the water-supply. There is a project for the erection of a sand filtration plant but before this can be carried out several legal difficulties have to be overcome. Then it will take at least two years to build the filters. In the meanwhile the death-rate is increasing. The annual average for the ten years ending 1900 was 19·30 per 1000. In 1903 the death-rate was equal to 21·1 per 1000.

Nor are matters any better on the other side of the river in Allegheny city. Up to the year 1898 the water intake was close to the town and below the Pittsburg intake. A terrible sewer, known as "butcher's run sewer" because it received the offal from many slaughter-houses, then emptied into the river above the Allegheny water intake. When the annual clearing of the reservoirs was made dead cats, dogs, and chickens, large pieces of flesh, and other organic matter in decomposition were pumped out. Typhoid fever was so prevalent that the authorities determined to lay a water main going eight miles up the river and here is situated the present intake. Instead of being below it is now two miles above the Pittsburg intake. It is also beyond the drain coming from the hospital and the asylum for the aged. But this drain is still above the Pittsburg intake. The municipal statistics show that during the year ending March, 1903, 149 deaths were attributed to typhoid fever at Allegheny and during the year ending March, 1904, there were 146 deaths from this cause. The general death-rate is increasing here as at Pittsburg, the figures being 16·98 per 1000 for the year ending March, 1901, 18·65 for the following 12 months, and 19·65 and 18·46 for the two succeeding 12 months. Yet the town continues to supply the unfiltered water of the Allegheny river. This is all that two of the richest communities in the world are able to do. The inhabitants of Pittsburg and Allegheny, while building up gigantic fortunes, are incapable of building a filtration plant such as exists in hundreds of other places where there is nothing like the wealth that the "Iron City" possesses. What is the good of such fortunes when it is dangerous to drink a glass of water? Where is that sentiment of *noblesse oblige* which should apply to the plutocracy as well as to the aristocracy?

DONATIONS AND BEQUESTS.—Under the will of the late Mr. Hammond Chubb the Zenana Bible and Medical Mission receives £200.—The Hull Royal Infirmary will receive £200 under the will of Mr. D. Haughton, late chairman of that institution.

PROFESSOR BACCELLI ON THE MOSQUITO THEORY OF MALARIA.

(FROM ONE OF OUR ITALIAN CORRESPONDENTS.)

THE Fourteenth Annual Congress of Internal Medicine took place in Rome on Oct. 24th to 26th under the presidency of Professor Baccelli who, having retired from the political arena a year ago, has returned to the field of his former labours at Santo Spirito full of his old energy and enthusiasm. His inaugural address to the Congress took the form of a vigorous protest against the modern doctrines regarding the etiology of malaria, about which, indeed, he has always maintained a conservative and critical, if not absolutely sceptical, attitude. In the fervour aroused by the new discoveries the leaders of the modern school—pathologists of the laboratory, as he calls them—have rushed to what he believes to be the erroneous conclusion that malaria in the sense in which it had hitherto been understood does not exist, that there exist only infected persons and infected anopheletes, and that the parasites of malaria are conveyed backwards and forwards between these two exclusively. Thus they would destroy at a stroke the conception of malaria which has been handed down to us for generations and which was founded on the observations of physicians of the highest attainments who dedicated their lifetime to the study of the subject. He contends that however satisfactorily the mosquito theory may serve to explain some phenomena of the epidemiology of malaria it fails to throw any light upon certain severe outbreaks connected with ricefields and marshes situated at long distances from the haunts of anopheletes which it is known do not travel far. Why, he asks, should it be a rule of prophylaxis to keep indoors after sunset in spite of the fact that the anopheles lives by preference inside dwelling-houses? How account for cases of malaria on board ship, for the diminution of malaria in towns after their water-supply has been improved, or for the fact that malaria may be contracted in deserts and uninhabited places by those explorers who are the first human beings to set foot upon them? Further, whilst the susceptibility to "spontaneous" malaria is almost universal, the same cannot be said of that inoculated by the infected anopheletes. If these insects are the only carriers of malaria how comes it that but a small percentage become infected by sucking malarial blood and become capable in their turn of infecting healthy persons, whilst infection results in 100 per cent. of cases where malarial blood has been injected by means of a needle into such persons? There are likewise, he considers, epidemiological facts of importance that weigh against the mosquito theory as being of universal application, such as the association, observed by Professor Baccelli himself, of malarious individuals with anopheletes in great numbers in the marshes of Fucecchio without any fresh outbreak of autochthonous malaria occurring, although in former times the disease was prevalent and deadly in that same locality. The distribution of the anopheles, too, is not parallel to that of malaria either geographically or in time. Thus, in July and August, whilst the epidemic is at its height, mosquitoes are few and only increase in numbers when the malarial season is drawing to a close, and, what is stranger still, that season sometimes begins by a sudden outbreak of numerous simultaneous cases whilst there is scarcely an infected mosquito to be found in the locality and few or no malarious persons happen to be living there. It has been objected that these are all cases of relapse, but the objection is not a valid one to Professor Baccelli's mind because not only is there wanting any relation in numbers but also any correspondence between the different types of fever. As a matter of fact, whilst nearly all the relapsing cases in winter and spring are of the æstivo-autumnal and quartan type, the new malarial season beginning at the end of June is represented almost exclusively by tertian cases, and—if a difference in the variety of parasite in the three types is admitted—the question arises, Where has the tertian parasite hibernated? Other difficulties in the way of the mosquito theory in Professor Baccelli's view are the length of the period required for the development of the attack after mosquito bite (about ten days) as compared with the shortness of the interval (often only three or four days) required for the newcomer in a malarial district to contract malaria; the sudden outbreak of numerous cases, almost all primary, immediately after a downpour of

rain; and many other facts which, however, he does not specify. He has therefore no faith in prophylaxis by mechanical protection from mosquito bite, believing as he does that malaria can be, and usually is, contracted in some other way. He refuses to accept the dictum of the anopheles exclusives who believe that the life of the parasite depends upon its introduction by the mosquito into the blood of man and that the double-life cycle is necessary to the perpetuation of its existence, and he seeks to justify his scepticism by recalling the fact that the parasite can undoubtedly reproduce itself asexually and indefinitely in man, and by quoting Laveran, Ross, and Manson, the first of whom thinks that the parasite may go through its development in the anopheles alone, while the latter affirm that by means of the so-called black spores it is capable of continuing to exist in the outside world independently of living organisms. Ross besides speaks of having seen cases of malaria arise in persons who had drunk water containing mosquitoes and their larvæ. Although these views of Professor Baccelli seem somewhat out of date the scepticism of the veteran champion of the ancient theories may serve a good purpose by directing more attention to some of the lacunæ which undoubtedly still remain in our knowledge of the origin of malaria. It is true that few or none of the modern observers take up the position ascribed to them by him of denying the existence of any mode of infection other than by mosquito bite, but it is nevertheless felt by everyone conversant with the subject that this aspect of it requires more study and that there is some problem behind, the solution of which might throw a flood of light upon the etiology and prophylaxis of malaria. At next year's Congress of Internal Medicine this theme of the etiology of malaria is to form the first subject of discussion and will be introduced by Professor Baccelli himself.

THE INTERNATIONAL CONGRESS ON DERMATOLOGY.

(FROM A CORRESPONDENT.)

THE International Congress on Dermatology was opened at Berlin on Sept. 12th. Professor LESSER (Berlin), who was in the chair, delivered an address in which he said that dermatological science had developed rather late in Germany—much later, in fact, than in France and Austria. Simon and Baerensprung excepted, there were no leading dermatologists in Germany previously to 1870, but since that time the subject had received much attention and German dermatologists were now not less accomplished than were those of any other country.

Dr. HOPF, an Under Secretary of State, welcomed the Congress in the name of the Imperial Government and alluding to the subjects of syphilis and leprosy which were to be discussed by the Congress, said that these questions were of national importance.

Dr. KIRCHNER spoke on behalf of the Prussian Medical Department; Herr KIRSCHNER, the mayor of Berlin, on behalf of the city; Professor SCHWARZ, the rector, for the University; Professor von BERGMANN for the Berlin Medical Faculty; and Professor GAUCHER (Paris) for the foreign delegates.

Treatment of Epithelioma.

Dr. SCHLESINGER (Berlin), assistant to Professor von Bergmann, said that the only efficient treatment of epithelioma was by operation. Undoubtedly there were cancroids which might be successfully treated by means of radium and by means of light, as used by Professor Finsen, but these were only very superficial cases. In the great majority of the apparently cured cases there was cicatrisation on the surface whilst the cancerous process spread to the deeper layers of the tissue. Surgical treatment might even then be successful although the most favourable time for operation had passed but in many cases the operation came too late. In the Berlin Surgical Clinic three such cases had been observed during the last few weeks. Superficial epithelioma might become cicatrised under radiotherapy, but this was of little importance as a similar result might be obtained by cauterisation. Radiotherapy had not in any case been found superior to surgical treatment. A striking experiment illustrating this had been performed by Professor Perthes who exposed the ears of a rabbit to the radium rays and found that the nearest layers showed extensive ulceration which decreased in proportion to the distance from the radium salt. The recommendation of phototherapy was based on the supposition that the results of surgical operations were bad, but statistics proved the contrary. Of 171 patients operated on for epithelioma 106 were cured and alive at least three years after the operation: 16 died after three years, 25 died within three years after the operation; three were still alive but had relapsed. The results, though quite favourable, would certainly become better when the operations were performed at an earlier date. In cases which were already unfit for operation phototherapy might be useful to relieve the pains of the patients and to produce a superficial cicatrisation of the gangrenous ulcerations; in every other instance, however, operation was the sovereign remedy.

Professor LESSER wished to distinguish the superficial cutaneous cancers from the deeper ones. The former variety (rodent ulcer) was suitable for phototherapy, while the latter must be operated on.

Dr. VON PETERSEN recommended injections of a soda solution of 15 per cent. strength.

Prevention of Leprosy.

Professor NEISSER (Breslau) said that he still held the views which he had expressed at the Congress on Leprosy held in 1897—namely, that the disease was contagious and was spread exclusively by lepers. The variations in the frequency of leprosy in different countries depended on variations in the possibilities of contagion. Leprosy being incurable, it was necessary to reduce the opportunities of contagion as much as possible by isolating all the sufferers in special homes. This system, though theoretically right, might nevertheless be modified in some respects. It was sufficient to isolate only lepers having open ulcerations because they alone discharged the virus. Other patients might be kept at home but must from time to time undergo sanitary inspection. Leper asylums must not present the appearance of a penitentiary, whilst, on the other hand, the isolation must be tolerably strict. In certain countries the inmates were so badly fed and so ill provided for that they had to support themselves by begging and in that way became a danger to the district. This, of course, ought not to be allowed. Notification of leprosy ought to be compulsory in every civilised State and trustworthy statistics ought to be published. It was difficult to decide whether leprosy had decreased since 1897. In the only part of Germany where leprosy existed, the Memel circuit, the number of patients had decreased from 25 to ten and of late years no recent case had been notified. In Norway also isolation had proved successful. Of course, lepers could not be prevented from marrying but the sanitary authorities ought to have power to isolate the children from the parents. Lepers ought not to be allowed to enter other countries and all measures against the spread of the disease ought to be international.

Phototherapy.

Dr. FORCHHAMMER said that the practical methods of phototherapy had not been improved during the last few years. The application of ultra-violet rays by the so-called "iron-light" had not led to useful results. In lupus vulgaris phototherapy had been found superior to any other treatment, especially for the good cosmetic results. Of other ailments the warty forms of tuberculosis of the skin were suitable for the treatment. In lupus erythematodes, acne vulgaris, acne rosacea, and alopecia areata the Finsen treatment should be combined with other methods. As to epithelioma, only the superficial forms (cancroids and rodent ulcer) should be treated by the Finsen light.

In the discussion Dr. SCHIFF pointed out that the combined treatment promoted the cure of lupus. The Finsen light was indicated in the diffuse ulcerative form and the Roentgen rays were indicated in the circumscribed nodular forms of lupus and in lupus of mucous membranes. In other affections of the skin the results of phototherapy were uncertain, as in alopecia areata, which might sometimes get well spontaneously.

Professor LESSER said that the Finsen method was the most important improvement in the treatment of lupus and was not equalled by any other procedure. The long duration of the treatment was of no consequence in a disease of so chronic a nature.

Dr. SCHOLTZ (Königsberg) described the action of the radium rays and said that it was very like that of the x rays,

but differed in some points. The radium rays acted more directly on the blood-vessels and on the deeper layers of the tissues and, moreover, had a rather strong bactericidal influence. As to their therapeutic effect, he had found that the radium rays acted more vigorously on malignant growths of the skin, especially on cancers; they had a curative action in telangiectasis and small angiomata, and, finally, might be applied to regions of the body which were inaccessible to the Roentgen rays, especially to the great cavities—the pleural, peritoneal, and cerebral.

Skin Disease and Metabolism.

Professor VON NOORDEN (Frankfort) discussed the matter from a theoretical standpoint, alluding especially to the theory of auto-intoxication.

Professor JADASSOHN (Berne) said that dermatoses indicated the existence of anomalies of metabolism, being influenced but not caused by these anomalies. Probably certain substances which were present in the circulation were the causes of the dermatoses. These toxins might either act directly on the skin, as in icterus and in pruritus, or they might produce vaso-motor troubles, as in urticaria, or act indirectly, as in diabetic xanthoma. Dermatoses might be produced when the toxin of the circulation appeared in the secretory system of the skin. In other cases the liability to contract a disease of the skin was perhaps augmented by the anomaly of metabolism as bacteria which were present in the skin showed an increased growth. As to the individual disturbances of metabolism, Professor Jadassohn said that in gout there were no specific skin diseases, tophi excepted. Diabetic xanthoma only occurred in real diabetes, as in cases alleged to be pentosuria the diabetes was obviously in a latent state; in a case of prurigo ferox an affection of the pancreas could be ascertained by examination of the bowels.

(To be continued.)

SECOND LATIN-AMERICAN MEDICAL CONGRESS.

(FROM OUR OWN CORRESPONDENT.)

THE report of this Congress, which was held at Buenos Ayres in April, 1904, has just been published. Among other papers of special interest are the following:—Dr. MAXIMILIAN ABERASTURY of Buenos Ayres, on Idiopathic Multiple Sarcomata. The author's conclusions are the following: 1. The primitive sarcomata of the skin must be actually of relative frequency in the Argentine, as in less than five years a single observer had been able to see all the described clinical types with the exception of one (type Piffard). Unna described five irregular types—namely, Unna, Piffard, Neumann, Perrin, and Funk Hyde. 2. With the exception of the type Kaposi Dr. Aberastury had proved that in all the other forms of sarcomatosis the morbid process seemed to begin in a circumscribed spot which served as a centre for the ultimate multiplication of the cutaneous nodules or might be regarded as a door of entrance for an infection. 3. In spite of careful research in no case had Dr. Aterastury found microbic or parasitic forms in the non-ulcerated nodules, or in the blood itself which had only presented conditions of anæmia of variable intensity. 4. The clinical differences of the types Neumann, Perrin, and Funk Hyde were in evident relation with their differences in histological structure, but variable grades of malignancy could not be based on it. In the three cases alluded to the morbid process had shown itself to be as inexorably progressive and fatal as in melanotic sarcoma, the most infectious of all. 5. Finally, in presence of these grave and generalised morbid processes, up to the present efficacious therapeutic measures could not be counted on. If arsenical treatment could temporarily influence Kaposi's sarcomatosis, on the other hand, it had no appreciable action on the other forms.

Professor LIGNIÈRES (Buenos Ayres) read a paper on Human and Bovine Tuberculosis in which he said that the true tuberculoses found in man and the domestic animals were due to bacilli which all belonged to the same group, the same species as the Koch bacillus which, however, came under the general law of variation of type. So that besides possible varieties still undetermined they knew now the following different types (*a*) bovine tuberculous bacillus, which was only a variety of the human type and *vice versâ*; and (*b*) avine and piscine bacilli which were of distinct races respectively and which differed from the human and bovine bacilli. Now that they knew, however exceptional it might be, that the bovine tuberculous bacillus could infect man especially in infancy, it would be a grave mistake to abandon the campaign so wisely initiated against the bovine tuberculosis. On the contrary, it was necessary to follow it up, to extend it, and to complete it, against the other animal tuberculoses, not only to prevent a possible contagion to man, but to combat particularly bovine tuberculosis which tended to increase alarmingly amongst cattle.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Dangers of the X Rays.

AN interview with a local medical man, in which the matter of lesions of the skin as a result of the x rays was alluded to, having appeared in the columns of the local daily press, a reporter called upon Sir Oliver Lodge and inquired his opinion upon the point. Sir Oliver Lodge said: "It has long been known that x rays might produce, or were apt to produce, sores, and it has also long been known that some sores are apt to develop into what is popularly called cancer. But there are many varieties of cancer and it is not strictly the medical term, so that it is difficult to say anything about it. My own idea is that it is not the x rays themselves which are responsible for this result but something which accompanies them and which can be screened off by suitable appliances, whereas no screen will completely obstruct the x rays. Hence it is likely that effective precautions can be taken by operators whose long-continued exposure to the x rays must be regarded as specially dangerous. The danger does not affect the patients to the same degree, though I believe some unfortunate results in the past have been produced upon patients also. Certain experimental results have suggested that cells can be stimulated into abnormal activity by the x rays themselves and if this theory is well founded then there may be some danger arising from this cause. At present it appears most likely, however, that x-rays dermatitis is the adventitious result of some concomitant which can be avoided by suitable precautions. It would be injudicious for the public to jump at the conclusion that the sores are of the nature of cancer, or have anything to do with it, although they may simulate its appearance and in certain cases may stimulate some previously existing cancerous tendency. On the whole it is probable that the sores are more akin to burns, in the infliction of which preliminary symptoms are able to afford no warning. It should be clearly understood that they only come after prolonged exposure."

The Bishop of Worcester and Faith Healing.

At the last annual service of the local Guild of St. Luke the sermon was preached by Dr. Gore, Bishop of Worcester, whose striking personality has made so much impression on the great city which is so shortly to cease to be a portion of that diocese. After alluding to the fact that at one time the clergy, being the only learned men, controlled politics and medicine as well as the religious exercises of the public, and that increasing knowledge and specialisation had altered all this, Dr. Gore went on to plead that the health of the body depended on the recognition of specialism. It was to be recognised, he said, that those who were outside the special departments of knowledge were obliged to accept the knowledge in which they themselves could not participate on the authority of those who knew. If the physician who knew were to tell him who did not know what he observed, what he suspected, and what he thought, it would convey to him either no information at all or else a false information. It would alarm him, because he would misinterpret it, for, as a matter of fact, the exact state of things as perceived by a scientific man was only intelligible to one who had that context of general knowledge which the terms and phraseology involved. Each in his department should recognise the place of others in that which went to make up the various and manifold well-being of human society. And in the matter of healing he wished to make an appeal to those who, as physicians and as nurses, were occupied about

the bedside of those seriously sick and dying, to allow its proper place to the ministry of religion which had, he fancied, in recent years been almost crowded out from any real or intelligible part in ministering by the bedside of the dying. The ministry of religion was not summoned, at any rate very often was not allowed to appear, at the bedside of the dying until, for all intelligent and intelligible purposes, it was too late, because the patient was no longer capable of entertaining serious thoughts. He earnestly asked those who shared the responsibility in the control of sick rooms to endeavour to procure some reform in this matter. There had been a great tendency to deal with sickness in its final and serious stages as if a man were merely a body without a spirit and Christian society had been wandering to extravagances, for so they often were, in the way of faith-healing as a reaction and protest against an undue separation of what was legitimate and right. He believed with the most profound conviction that faith with its quiet, calming power—the consciousness of peace with God, the expectation of Divine help, the faith in the power of prayer,—he believed that these things had an effect far greater than merely material science had been accustomed to recognise in producing or maintaining a healthy body or physical life. He believed that faith-healing had at the bottom of it a real and legitimate witness against the one-sided materialism with which we had been treating sickness; and so he earnestly asked of those who were responsible for the control of the sick-bed to see to it that while the physician was allowed his own proper supremacy of direction the minister of religion was allowed his own proper place in the ministry of prayer, and the sacraments, and the word of God.

Birmingham Medical Mission.

The annual meeting of this organisation has recently been held, Dr. Thomas Savage being in the chair. Mr. H. Bagster Wilson, the medical superintendent, gave an account of the work done and stated that the mission was founded in 1875 and was beginning its thirtieth year of work. It had progressed from a room in Park-street to the present buildings which were opened by Alderman Lloyd in May, 1902. They would not claim that there had been no shortcomings and failures, but countless lives had been helped spiritually, morally, and physically by this simple, unpretentious agency and much sheer hard work for the city inhabitants had been accomplished by a little army of workers, men and women, rich and poor. The fears expressed before the experiment of 1875 was undertaken had happily proved groundless, the mission had proved needful, and its essential principle of a combination of medical and Christian influence did not need change. After extending his thanks to his medical colleagues Mr. Wilson stated that the ambulance class was an entirely fresh effort in keeping with the objects of the mission. A band of men and youths had passed the first examination of the St. John Ambulance Association and were proceeding to further honours. The ladies' auxiliary committee had taken a practical interest in the women's, girls', and other departments and had presented an organ. The great value of settlements in the poorer and more crowded districts was increasingly recognised and the medical mission embodied many of the highest features of settlement life. Some of the workmen resided on the premises, others close by, while others, again, treated the mission surroundings as their home. The mission was fitted, by the practical experience of its workers, to play no little part in throwing light on how to deal with the poor individually and in relation to their environment.

Disposal of Sewage.

Mr. John Price, the city surveyor, in a paper recently read to the Scientific Society of the Birmingham and Midland Institute, dwelt upon the importance to the community of a good system of sewerage. Since great attention had been paid to the provision of a pure water-supply and an effective method for the removal and the rendering innocuous of liquid refuse there had been a steady drop in the death-rate. The disposal of sewage depended, of course, to a large extent upon the situation of the town from which it was desired to remove it. There were three principal systems of town sewerage at present—namely, the combined, the separate, and the partially separate systems. He advocated the use of the partially separate system, such as had been laid down in Edgbaston and Harborne, as being the most effective and economical, inasmuch as in time of an exceptionally heavy rainfall less liquid found its way to the outfall, a large proportion of the surface water being diverted from the sewer proper into other channels. The greater part of the sewerage system in Birmingham at the present time was on the combined system, the disadvantage of which was that the sewer had to be constructed out of all proportion to what was required of it in dry weather.

Nov. 12th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

University of Liverpool: Inauguration of the New Buildings of the Medical School and the George Holt Physics Laboratory.

THE new buildings of the Medical School and the George Holt Physics Laboratory were opened on Nov. 12th, the former by the Chancellor of the University (the Earl of Derby, K.G.) and the latter by Lord Kelvin. Prior to these ceremonies a large gathering assembled in St. George's Hall under the presidency of the Chancellor who explained that the University extensions since 1898 had involved an expenditure of close on £100,000. Lord Kelvin said he found realised in the new physics laboratory general developments of 50 years of physics laboratories in this country and the world. The Right Hon. R. B. Haldane, M.P. (who had taken a leading part in the establishment of the University), was admitted to the honorary degree of Doctor of Laws and in a subsequent address declared that the new universities had their own work to do in the formation of character and in influencing the training of teachers in their vicinity. The new medical school, in keeping with the rest of the University buildings, is of brick, with terra-cotta decorations and stone dressings. It completes the range of buildings on the science side of the quadrangle and is one of the best equipped institutions of its kind, a special feature all through the school being the provision made for individual research. The style is Gothic and the plans and designs were prepared by Mr. Waterhouse, R.A. The main entrance is to the right under an archway leading from the main quadrangle to a smaller one, on the south and east sides of which are the new buildings, and on the west side is the old medical school, now used for materia medica and preparatory work. A moderate-sized entrance hall, opening from which are a porter's lodge, photographic dark-room, and laboratories, gives access to the main staircase. On the ground floor, also with access from the hall, are the rooms of the dean of the medical faculty, the professors' common room, and the surgical theatre. The latter is quadrant-shaped, occupying the south-east angle of the building, and lighted by six lofty windows. It is planned to accommodate a large number of students and with every convenience in the matter of apparatus and lighting. There are two entrances, one from the hall and the other from the gallery of the anatomical museum. The last is one of the features of the institution, being 59 feet by 40 feet, two storeys in height, and lighted on two sides. Another entrance to the museum is provided from the smaller quadrangle. On a mezzanine floor are several rooms for research and the museum of embryology. The first floor is devoted to the department of anatomy. The laboratory and study of the professor of anatomy, a preparation room, and ample lavatory and locker accommodation for students occupy one wing of the building. The anatomical theatre, similar in size and plan to the surgical theatre below, is situated between these apartments and the dissecting room, equal in size to the museum and forming the upper storey of the museum wing. The dissecting room is lighted from the roof and is overlooked by the professors' private gallery for special research. An operating room for advanced students in surgery, a bone room, and a class room for women students are arranged on the second and top floors. In the basement, which is light and lofty owing to the fall of the land, are the departments of toxicology, ophthalmology, practical surgery, and advanced medicine. The George Holt physics laboratory, erected through the munificence of Mrs. Holt, Miss Holt, Sir John Brunner, Bart., M.P., the late Sir Henry Tate, Bart., the executors of the late Rev. J. H. Thorn, Mr. Alfred Booth, Mr. Holbrook Gaskell, Mr. J. W. Hughes, and Mr. John Rankin, and to which these donors contributed nearly £26,000, was described by Lord Kelvin as "a place of delight for every scientific man, every scientific boy, and

every scientific girl." The laboratory covers an area of 9600 square feet and has an average height of 55 feet. The external walls are built in best common brick, with broad courses of red brick and dressings of Storeton stone. The basement floors are asphalt on a bed of concrete, resting on the continuous rock which is the foundation of the whole building. All the upper floors are fireproof; they consist of a bed of concrete which encases a lattice-work of steel girders and supports, a layer of coke breeze, upon which tongued and grooved pitchpine boards are fastened with bitumen and nailed. The resulting surface is both noiseless and steady and the whole building is made rigid by the girders employed. In the basement there are a large workshop fully fitted with machine tools, storerooms, a room containing a liquid air plant, a furnace room, an accumulator room, a room for the custody and comparison of standards, and a number of research rooms in which extra steadiness, or complete darkness, or constancy of temperature can be respectively secured. On the ground floor, close to the entrance hall and cloakrooms, are the doors of the large lecture theatre, a smaller class room, and a large laboratory for elementary students. This floor also contains the preparation room, the apparatus room, and a sitting room, office, and private laboratory for the professor. The first floor is set apart for the teaching of senior students. It contains two large students' laboratories, four smaller rooms for optical and acoustic experiments, a students' workshop, a library, and two sitting rooms for demonstrators. The second floor consists almost entirely of research rooms of various sizes. Of these, some are designed for special purposes, such as spectroscopy, but the majority are planned so as to be adaptable to as great a variety of needs as possible. A photographic dark room is provided on each floor; that in connexion with the preparation room is adapted for the making of lantern slides and enlargements. There is also a small observatory on the roof containing a four-inch equatorial telescope. An electrically driven lift, working in the centre of a tower, is available for the conveyance of heavy apparatus from floor to floor. It can also be used to give access for experimental purposes to all points of two vertical walls which extend to the full height of the tower, about 75 feet. In another part of the laboratory, access over a horizontal distance, about 90 feet, nearly equal to the whole length of the building, is secured. The rooms are heated by low-pressure hot-water and ventilated by an exhaust fan in the roof. They are adequately supplied with gas, with sinks to which hot and cold water are led, with electric power from the corporation mains, and with wires from a switchboard in the basement, to which accumulators are connected. The wiring is run in wood casings on the surface of the walls, all pipes are fully exposed, and wherever a floor or wall is pierced an opening is left through which permanent or temporary connexions can be made as required. The architects are Messrs. Willink and Thicknesse of Liverpool and Professor F. M. Simpson of University College, London, formerly of University College, Liverpool. Amongst the guests invited to the ceremonies were the President of the Royal College of Surgeons of England (Mr. J. Tweedy), Sir Dyce Duckworth, Dr. Frederick T. Roberts, Sir William Macewen, Professor Howard Marsh, Professor J. Cleland, Sir Oliver Lodge, Viscount Cross, G.C.B., the Lord Bishop of Liverpool, and the Vice-Chancellors of the Universities of Leeds, Wales, and Manchester.

Liverpool University Association Dinner.

The Earl of Derby (the Chancellor) presided over a large gathering at a dinner given in connexion with the University Association on Nov. 12th at the Adelphi Hotel. Among the guests were the Right Hon. R. B. Haldane, M.P., LL.D., the President of the Royal College of Surgeons (Mr. Tweedy), Sir Oliver Lodge, and others. Professor A. M. Paterson (professor of anatomy) responded to the toast of "The New Buildings." He said that it was ten years since the building scheme was commenced. The endowments made after the foundation of University College had rendered the scheme possible. Mr. Thompson Yates started it with the erection of the laboratories called after his name. Then appeared as a builder Mr. George Holt, who began on either side of the block and founded different buildings for the department of anatomy which were much needed. The opening of the Thompson Yates laboratory resulted in an appeal being made, as a result of which £1400 were raised, and they were enabled to build the museum of anatomy and a dissecting room block. Then came a wave of enthusiasm and the sum of £20,000 was allotted for the completion of the block. They had now a complete building surrounding the great yard where the one relic of the past was the little old square block founded in 1834 by the trustees of the Royal Infirmary. The series of buildings for medical instruction and medical research which they had completed that day had cost, roughly speaking, £80,000. Professor Wilberforce (professor of physics) also acknowledged the toast and expressed the debt of gratitude which the school of physics owed first of all to the memory of Mr. George Holt, and next to the donors for the resources from which the latest magnificent addition to their fabric had sprung. Sir Oliver Lodge, in replying to the toast of "The Guests," said that in Birmingham they looked with envy at Liverpool in splitting up the gigantic subject of chemistry by the endowment of a chair of that most important branch, physical chemistry. Unfortunately, they had not a Sir John Brunner to give £25,000 and to allocate £10,000 of that amount for a chair of physical chemistry.

Liverpool Royal Infirmary: the John Lawrence Memorial Bed: Interesting Ceremony.

The Lord Mayor and Lady Mayoress visited the Royal Infirmary on Nov. 3rd for the purpose of affixing the memorial plate over the bed which has been endowed in memory of the late Alderman Lawrence, who died at sea in April last while returning from a trip to the Mediterranean. Mr. Lawrence was for 23 years connected with the Royal Infirmary as a member of the committee and at the suggestion of those with whom he had worked so long a public subscription was opened to provide a suitable memorial. A meeting was held at the town hall and it was felt that no better memorial could be provided than an endowed bed in the infirmary with which he had been so long and so closely associated. A sum of £1000 had been contributed by 160 persons and invested on trust to endow a bed in ward No. 12 (male). The tablet affixed to the bed at the ceremony is of oxidised repoussé copper work and is inscribed, "In memory of John Lawrence, this bed is endowed by many friends as a mark of their esteem and affection, and in recognition of the services rendered by him to the city and to this institution."

Liverpool School of Tropical Medicine.

The Treasury, at the instance of the Colonial Office, has made a grant of £500 a year to the Liverpool School of Tropical Medicine.

Nov. 14th.

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS.)

Typhoid Fever in the Rhondda Valleys.

THE water-supply of the two Rhondda valleys is derived mainly from gathering grounds situated at the head of each valley and specific contamination, though possible, is not very likely to occur. There are, however, subsidiary supplies which are not at all well safeguarded for they are derived from mountain streams which are readily accessible to pedestrians and wayfarers who are constantly passing from one colliery district to another. One of these smaller gathering grounds is situated about the middle of the large valley and is bounded on the upper side by the main road connecting the two valleys. The water is collected in a small reservoir holding 50,000 gallons and is filtered through sand before being distributed to the 1200 houses in the immediate neighbourhood. On Nov. 8th the large number of cases of typhoid fever reported from this particular district indicated an outbreak of the disease, either milk- or water-borne. Up to Nov. 12th no fewer than 150 cases were reported and there appeared little doubt that the water-supply in question was implicated. Fortunately it was possible to cut off the supply from the suspected source and to provide an alternative service. The fever hospital erected three years ago is within the area of the outbreak and although there is nominal accommodation for only 38 beds there are now over 60 cases of typhoid fever being treated in the wards. During the past few years there have been several similar outbreaks of typhoid fever in the Rhondda valleys but none have assumed such alarming proportions as the present one. One outbreak which occurred in the small valley in 1900 was due to the peaty discolouration of the

water from the mains of the Pontypridd Waterworks Company. The inhabitants of one district would not drink this discoloured water and procured some from a mountain stream which was specifically contaminated, the result being that of 100 houses concerned 46 were infected with typhoid fever, 68 persons being attacked with the disease and only 58 recovered. An effort was at that time made by the urban district council to compel the waterworks company to filter efficiently the water supplied by it, but it is still very frequently discoloured and it will probably require another such outbreak to rouse the council to a sense of its responsibility. In order to be in a position to abandon the dangerous subsidiary supplies in the large valley it is necessary for the council to carry out its scheme for increasing the supply at its own waterworks for which Parliamentary powers were obtained many years ago. The blame for neglecting to carry out the undertaking must rest entirely upon the members of the district council, for the present medical officer of health and his predecessors have insisted year after year upon its urgency.

Memorial to the late Mr. C. W. Chubb of Torpoint.

On Nov. 6th the Rev. C. Kennerley dedicated at St. James's Church, Torpoint, Cornwall, two handsome brass five-light candelabra which have been presented by the congregation of the church as a memorial to the late Mr. C. W. Chubb, M.R.C.S. Eng., and Mrs. Chubb. The candelabra, which are five feet high, have been placed within the sanctuary of the chancel and bear a suitable inscription.

Nov. 14th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

The Question of Age Limit at the Edinburgh Royal Infirmary.

IT may be remembered that the managers of the Edinburgh Royal Infirmary decided to institute an age limit for the ordinary honorary physicians and surgeons on the staff of the infirmary, while exempting from its operation the physicians and surgeons who were at the same time professors in the university. At the meeting of contributors to whom this motion was submitted it was proposed that the age limit should be made applicable to all the members of the staff, whether university professors or not. This proposal was carried. At a subsequent meeting this finding was not upheld but it was ultimately arranged to refer the consideration of the whole matter to a committee consisting of five subscribers and five managers. The report of this committee was made public in the end of last week. The report summarises the position as given above up to the present. It then indicates that the committee had consulted the University, the Royal College of Physicians, the Royal College of Surgeons, and the staff of the Royal Infirmary, and that all with the exception of the University approved of the institution of an age limit. The committee had also fully investigated the question of the relations between the University and the infirmary and states that while it was ascertained that the infirmary had entire power in the matter of the appointment and duration of office of professors as members of the staff of the infirmary no instance had occurred in which a professor had been deprived by the managers of his position in the infirmary during his tenure of a university chair. The joint committee came to the conclusion that it was inexpedient to fix a compulsory age limit for the retirement of members of the medical and surgical staff from active service in the Royal Infirmary and it submitted the following recommendations to the court of contributors:—

1. That the rule fixing an age limit for the members of the ordinary medical and surgical staff be not adopted.

2. That accordingly the resolution passed on Jan. 4th last requiring professors to retire from the positions which they occupy on the staff on attaining the age of 65 years be rescinded.

3. That in future each professor and physician and surgeon in charge of wards in the infirmary may at the expiry of the time for which he has been appointed apply for reappointment, when the managers shall give careful consideration to his case, and when, if deemed expedient by the managers, he may be reappointed for such term as they may fix—the first consideration of the question of reappointing professors now in charge of wards to take place within one year from the adoption of this rule.

The adoption of these recommendations, if approved of by the contributors, will, in the view of the committee, render it superfluous to fix an age limit in the meantime. In the case of the ordinary medical and surgical staff a rule prescribing an age limit of 65 would, looking to past experience, practically never come into operation. Under the rules now proposed the managers will have the matter within their own control, as the question of the continuance in office of the principal medical and surgical officers, including the professors, will in every case come regularly under the special consideration of the managers, when they will have it in their power either to renew the appointment for five years or for such shorter time as they see fit, or to resolve that there shall be no re-appointment. The committee have no reason to doubt that the managers will in each case exercise a wise discretion in the interest both of the patients and of the medical school.

This report was signed by eight of the joint committee and dissented from by two. The meeting of contributors to consider this report was held on Nov. 14th. The meeting was small and the dissenting minority on the joint committee had the vote of the majority in this meeting and an amendment was carried by 33 votes to 12: "That all members of both medical and surgical staffs, including professors, should retire at the age of 65 years."

Nov. 14th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Mater Misericordiæ Hospital, Dublin.

THE address inaugurating the new medical session was delivered at the Mater Misericordiæ Hospital, Dublin, by Sir Christopher Nixon on Nov. 9th. In connexion with the new pathological laboratory which was built at the hospital, he said that the notion that a great teaching hospital was an institution purely for the treatment of the ailing and suffering was giving way before the demands of modern medical science.

Royal College of Surgeons in Ireland.

Sir Charles Ball, the present representative of the Royal College of Surgeons in Ireland on the General Medical Council, has announced that he will not seek re-election. Mr. H. R. Swanzy (Vice-President) and Sir Thomas Myles have notified their intention to present themselves for election.

Trinity College, Dublin.

Dr. E. H. Bennett, who has occupied the chair of surgery in the School of Physic, Trinity College, for so many years, has, at his own request, been relieved from the active duties of the office and Mr. E. H. Taylor has been appointed his assistant. Dr. Bennett will continue to act as surgeon to Sir Patrick Dun's Hospital.

Ulster Medical Society.

At the first meeting of the Ulster Medical Society for the session 1904–05 the new President (Dr. W. Calwell) gave his inaugural address, taking as his subject Certain Phases in the Treatment of Dyspepsia. The processes of nutrition, he said, might be divided into those due to ferments, where molecules of a higher potential energy were reduced to a lower but at the same time rendered capable of absorption. In the intestinal villi, the molecule of peptone was raised to a higher form of that of serum-and globulin albumin, and a similar change came over dextose which in the liver was continued so that the poly-saccharide glycogen was found. Part of the albumin and carbohydrate was assimilated by the living cells of the body, which was the highest degree of anabolic energy, but the greater part remained in solution, being used as a source of energy. The katabolic changes were obscure but ended in urea, carbon dioxide, and water. It was not difficult to see how easily these delicate and intricate processes could be thrown out of gear; for instance, 38 artificial methods for the production of glycosuria, which meant glycohæmia, had been recorded. Malnutrition might thus be a perversion of ferment action; of protoplasmic action, preparatory in the intestinal villi and liver or final and assimilative in the tissues throughout the body; or of disintegrative action. The metabolism of starvation might be studied in cases of cardiac stenosis or of advanced gastric ulceration. An excess of food probably overloaded the intestinal canal and taxed the assimilative powers generally. Alluding to the diet in sanatoriums for tuberculous subjects, he believed that it was more a case of deficient feeding before going to the sanatorium than of overfeeding afterwards which led to a marked rise in weight. The deleterious effect of excess of sugary food seemed to have a reducing power on the natural "protective substances" of the body, the variability in this susceptibility being well known. Of the large class of diseases of the mucosa-hepatic type, where disturbance of metabolism followed gastro-intestinal disorder,

several cases were cited in which various manifestations, such as glycosuria, severe headache, with high-tension pulse, and even convulsions, were present, in addition to the usual symptoms, and where it was likely that these manifestations were due rather to the product of disturbed metabolism than to any initial toxin. The treatment in this acute mucosa-hepatic class was mercury in a purgative dose, a saline, a farinaceous mild diet, and salicylate of sodium and potassium; empirically, this last drug (salicylic acid) when combined with potash was found to be of immense service; whether the scientific fact that it caused an increased output of uric acid was explanatory or not it was hard to say. Gout was probably a disease of the chronic mucosa-hepatic type occurring in a person with a special diathesis, mostly inherited, and defective eliminatory powers. Of the large class of disease, such as "flatulence," "acidity," "biliousness," and "migraine," they were not gout, but allied to gout; for these he ventured to coin the name "para-podagrous." Of the primary disorders of metabolism might be cited the "composite" type of diabetes mellitus, where the dextrose molecule seemed to escape from the huge proteid molecule of the tissues; also obesity and that curious class in which nervous influence and strong emotion more particularly were present with more or less gastro-intestinal trouble, phosphaturia, azoturia, baruria, oxaluria, and, as has been lately pointed out, chiefly by French clinicians, the cases of renal inadequacy for chloride of sodium and its connexion with dropsy and the excessive amount of the salt passed in cirrhotic kidney. Finally, the speaker made an appeal for scientific work to become more clinical and clinical work more scientific. On the motion of Dr. J. Walton Browne, seconded by Professor J. A. Lindsay, a hearty vote of thanks was accorded to the President

The Royal University of Ireland.

At a meeting of the council of the Royal University Graduates' Association held in Belfast on Nov. 7th motions bearing upon the recent Crown appointments to the senate were unanimously adopted, condemning in language of marked disapproval the action of the Government in the matter.

The Belfast Workhouse Sanatorium.

In reference to the sanatorium for consumptives at the Abbey, Belfast, the board of guardians have decided to adopt a plan the principle of which combines both sleeping and sitting accommodation, the approximate cost being £1250 each hut.

Nov. 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Dr. Variot's "Goutte de Lait" at Belleville.

IN connexion with the debated subject of the employment of different kinds of milk for the artificial feeding of infants special interest attaches to the dispensary bearing the picturesque name of "Goutte de Lait," which has been carried on at Belleville by Dr. Variot for the last nine years. It may be here remarked that in France institutions for the benefit of suckling infants are of three kinds. First, there are the *crèches* (day nurseries), to which mothers who are at work all day long bring their infants in the morning, taking them away at night, and where the infants throughout the day obtain nourishment either from wet nurses or from feeding bottles. Infants may also be brought for advice as out-patients to the obstetric departments of most of the Paris hospitals, and the women who have been delivered there come once a week, bringing their infants to be examined by a medical man. The infants, each of whom has a special card (*fiche*), are weighed and in accordance with their weight and general health the mothers are advised as to the proper method of feeding them, by giving them less milk if too much is taken, and by increasing the supply if the mother's milk is insufficient. In the latter case the mother comes every morning to the hospital for bottles of sterilised milk the number of which is decided by the medical man and entered on a card. These bottles are filled by hospital officials in a laboratory where the milk is sterilised in a Sohxlet apparatus in graduated bottles stoppered by means of an indiarubber disc. In the event of the medical man being satisfied that a woman is quite unable to suckle her infant even partially artificial feeding is resorted to and the woman receives every day at the hospital the necessary number of bottles of milk as ordered by the medical man. The bottles each contain the amount of milk to be given at one time and the woman carries them home in a basket. A sum set apart for this purpose by the Assistance Publique enables the milk to be distributed free of charge and the mothers every morning bring back the empty bottles which had been given to them full of milk the day before. Only broken bottles have to be paid for. The "gouttes de lait" are institutions of a different nature. The infants brought there by their mothers are all bottle-fed and there is no age limit. The medical man of the establishment examines them each week in order to observe their state of health and to give directions as to feeding them. The requisite amount of sterilised milk is distributed not free of charge but at half the ordinary retail value. The dispensary at Belleville in which Dr. Variot has established his "goutte de lait" is one of the oldest institutions of its kind and is at the present time very prosperous. The milk which he distributes has been heated to 108° C.—i.e., above the boiling point of water—is supplied by purveyors in Neuchatel and Normandy, and is sold to the mothers at the rate of 30 centimes per litre instead of 60 centimes. The institution is situated at No. 126, Boulevard de Belleville, in one of the most populous working-class quarters of Paris. The premises consist of a wooden house, extremely clean, containing a large, well-ventilated, and well-lighted consultation room, a laboratory, and a pharmacy; on the first floor there are some small rooms for cases requiring surgical attention. Dr. Variot, surrounded by his assistants, gives advice every Friday morning. The system which he follows is scientific and exact. Commercially sterilised milk for 750 bottle-fed infants is distributed every day, the quantity amounting to about 150 litres per day, from 4000 to 5000 litres per month, and from 50,000 to 60,000 litres per annum. The total quantity of milk distributed at the Belleville Dispensary now exceeds 400,000 litres in ten years. The distribution of this milk at half price to the infants of the poorer classes in Belleville was commenced at the end of 1892; after an interruption of a year the supply has continued regularly since 1895. More than 3000 infants during the first year of life have been reared on these 400,000 litres of milk. The milk is cow's milk, the nutritive value of which has been ascertained, sterilised soon after milking in rooms kept for the purpose. It is run into half-litre bottles corked before sterilisation; the corks are kept in position by iron hooks during the superheating to 108° C. and are paraffined after the sterilisation. The milk is in this way perfectly sterilised, it is very easily carried to Paris in boxes, and is very convenient for distribution on the large scale to the working classes. It can be easily kept for eight or ten days without any deterioration even during the heat of summer; only one-half litre bottle in 1000 is spoiled during the summer and only one or two in 3000 during the winter. For the feeding of an infant the contents of each half-litre bottle are subdivided by the use of a graduated feeding-bottle and the mothers are strictly charged to measure the milk each time that the child takes it. The bottle is re-corked when milk is withdrawn and the sterilisation is practically maintained until the milk is finished—a period of 12 hours at the most. The effect produced by the milk is noted regularly once a week at least; the infants are weighed without clothing and their weights are entered on separate cards. If the infant becomes ill he or she is taken to the dispensary for advice. Infants of all ages up to one year are admitted to the dispensary whether fed with the bottle alone or with the bottle and the breast together, or with the breast alone. A good many of them are in a state of wasting, their growth being retarded through gastro-enteritis caused by unwholesome milk and the inexperience of the mothers. By the weekly inspections of from 150 to 200 infants much precise information may be obtained with respect to the rearing both of normal children and of those suffering from disease, such as tubercle and congenital syphilis. After a patiently continued experience of ten years in this special field of observation Dr. Variot adheres entirely to his first conclusions which he submitted to the international congress of pediatry held in 1900. He finds that the nutritive value of milk that has been heated to 108° C. is as satisfactory as that of milk sterilised in a Sohxlet apparatus, or boiled milk, or pasteurised milk. The infants reared on this milk are not only those whose condition is normal but those who show

symptoms of wasting. It may often be given even to those in a state of advanced atrophy and suffering from Parrot's athrepsia. The proportion of infants incapable of assimilating this milk is less than 3 or 4 per cent. of the total number. Infantile scurvy has not been observed in any case during ten years and among more than 3000 children. Infants who are taken proper care of do not suffer from rickets; symptoms of rickets appear if they are overfed and if they are given preserved food too soon. It does not appear that the slight reduction of the proportion of phosphates and citric acid or the destruction of the enzymes or living ferments in the highly heated milk is of sufficient importance to interfere with its value as a food. All theoretical criticisms directed against sterilisation of milk, and especially against raising it to a high temperature, are contradicted by the extremely numerous observations made at the "goutte de lait" in Belleville. Presumably it is from want of experience that men of the scientific standing of Professor von Behring have questioned the nutritive value of milk sterilised by heat and have suggested a method so dangerous as the use of formalin. The objections to the highly heated milk appear to be as follows. The heating makes it slightly yellow and the butter tends to collect on the surface after a journey. It often causes prolonged constipation which requires the administration of laxatives, but this slight interference with the gastro-intestinal functions is compensated by the effect of the highly-heated milk in preventing summer diarrhœa. Anæmia is also more common among infants taking this milk than among those taking breast milk. Such is a comprehensive view of the very interesting work carried on by Dr. Variot. There is no denying that it as well as "gouttes de lait" in general are discountenanced by the organisations for the benefit of infants on the ground that they favour bottle-feeding, whereas the proper course is above all things to urge mothers to suckle and the "gouttes de lait" make neglect of this duty too easy. But to this criticism Dr. Variot replies that the children brought to him are already weaned and it is then too late to influence the mothers. In the maternity hospitals, on the other hand, mothers are fully informed as to the advantages of suckling their infants.

Nov. 15th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Vital Statistics.

THE census results for 1903 have just been published by the Federal Statistical Office at Berne. The population of Switzerland has increased from 3,268,494 in 1899 to 3,391,645 in 1903. The number of marriages has been fairly stationary, varying only from 25,128 in 1902 to 25,537 in 1900, and numbering 25,283 in 1903. The number of births in 1903 was 93,824 and that of deaths was 59,626, the corresponding death-rate being 17·6 per 1000. The death-rates from 1899 to 1902 were 17·6, 19·3, 18·0, and 17·2 per 1000. About one-fifth of all the deaths were of infants under one year of age (12,506 in 1903).

Immediate Operation in Appendicitis.

At a meeting of the Medical Society of Zürich, held on Oct. 22nd, Dr. Haeberlin gave an account of 14 cases of acute and four cases of chronic appendicitis which he had operated on at his private clinique during the last two years. According to the classification of Dr. O. von Brigners he had four cases of simple epityphlitis, three cases of purulent epityphlitis, and seven cases of diffuse peritonitis. Of the latter category he lost three cases—one a baby, aged 18 months, and two women, aged 60 and 76 years respectively. He made especial reference to the case of a child, aged seven years, where the clinical symptoms and the pyrexia were inconsiderable, the temperature varying from 99° to 100·3° F., and only the pulse-rate, varying from 108 to 120, gave rise to suspicion. Operation on the fourth day revealed gangrene of the appendix. The patient was discharged on the thirteenth day. The chronic cases, which were misleading with regard to diagnosis as they manifested gastric symptoms, were also instructive. Dr. Haeberlin recommended operation as soon as the diagnosis was established, and the experience of other surgeons, such as Riedel and Sprengel, went to prove that cases of perforation were then rarely met with. In uncomplicated cases the patient might almost be promised a rapid recovery. Patients were more ready to consent to the surgeon's proposal of an operation during an attack than after it.

Sanatorium Treatment of Tuberculosis.

Dr. Staub, the medical superintendent of the Zürich Sanatorium at Wald for tuberculous patients of the poorer class, has just published his fifth annual report dealing with the events of the year 1903. 284 patients were admitted and 266 were discharged, of whom 240 were suffering from pulmonary tuberculosis. He gives a *résumé* of 219 patients who stayed more than one month at the sanatorium. The average duration of their stay was 125 days, a slight increase as compared with the previous year. 41 per cent. were in the first stage, 23 per cent. were in the second stage, and 36 per cent. were in the third stage. 81 per cent. of all the patients were discharged in an improved condition. Dr. Staub makes an interesting statement as to definite results obtained. They compare very favourably with those of German sanatoriums situated in the lowlands and supply an additional proof that the factor of elevation above sea level must not be underrated in the treatment of pulmonary tuberculosis. Investigations two and three years after discharge proved that 92·6 per cent. of the patients in the first stage, 75·3 per cent. of those in the second stage, and 42·4 per cent. of those in the third stage were still in full work, having been able to resume their previous occupations. These data speak for themselves and Dr. Staub is so far encouraged that he does not wish to shut the doors of the sanatorium to suitable cases even in the third stage. Even of the patients discharged in 1899 the reports in 1903 were favourable. According to the more or less advanced stage of the disease on admission 90 per cent., 45 per cent., and 7·3 per cent. respectively were fit for work. At a sanatorium the majority of patients increase in weight. An investigation proved that from 70 to 80 per cent. of the patients treated at Wald still kept up their extra weight for from two to five years after discharge. The financial state of the sanatorium was satisfactory, the voluntary contributions of the cantonal authorities amounting to £672 and those of the public to almost £800.

Zürich, Nov. 14th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

TWO fatal cases of bubonic plague have occurred at Eastwood, New South Wales. Both patients were employed, one as groom, the other as housekeeper, at the same place and the groom had been handling produce from Sussex-street, Sydney. Rats had been also dying about the house and the assumption is that infected rats were conveyed in fodder from Sussex-street. The authorities have recognised that nearly every outbreak of the disease starts from the neighbourhood of this street, in which are many old dilapidated buildings used as produce stores. Orders have been issued for the demolition of these buildings, many of which belong to the Harbour Trust.

Infectious Diseases in Victoria.

The returns presented to the Board of Health, Victoria, for the last fortnight showed that there were only two cases of typhoid fever, neither of which proved fatal. Last year, however, there were ten cases of typhoid fever and two of them ended fatally. The number of cases of diphtheria was in excess of last year, though there were fewer deaths. Last year there were 66 cases and four deaths, while this year, though there were 79 cases, there were but three deaths. There were the same number of cases of scarlet fever reported this year as last—39—but whereas one case proved fatal last year there were no deaths to report this year.

Sanitary Condition of Mines.

The municipal sanitary inspector at Broken-hill recently made an application to the local police magistrate for an order to inspect the sanitary condition of the Broken-hill proprietary mine and its underground workings. The application was refused. The chief inspector of mines stated that all mining inspectors were specially instructed to see that sanitary arrangements are properly carried out. New regulations have been drafted, to come into operation next month, with special reference to preventing ankylostomiasis.

Mortality among Boarded-out Children.

The board of health of Victoria recently waited on the Minister of Health and called his attention to the conditions under which infants were boarded out in this State under the Infant Life Protection Act. It appeared that the mortality among them during the past three years had been close on 14 per cent. In South Australia the mortality in 1901 was given at 8 per cent. and in 1902 at 4·7 per cent. It was clear that the Victorian Infant Life Protection Act or its administration was at fault. It was generally understood at the time that numerous parties in the metropolis concerned in the protection of infant life were agreed as to the advisability of amending the law in these and other directions, as set out in an amending Bill. The board accordingly respectfully asked the Minister's consideration of the Bill or to have official inquiry made as to the cause of what appeared to be exceptional mortality among the boarded-out infants of the State. The Minister replied that he was in favour of several of the points mentioned. He would go through the Bill for the purpose of seeing how far he could meet the board in its request.

Mentally Deficient Children.

In the report of the State Children Relief department, recently presented to the Parliament of New South Wales, is the following paragraph :—

> Reference has been made in previous reports to the mentally deficient—the children of feeble mind who, not being imbecile and eligible for admission into the hospitals for the insane, are now placed in the cottage homes because they cannot be accommodated elsewhere. Their presence in these homes is, as has been pointed out, an error, because the homes are only for the physically sick. There are no facilities for properly training and educating the mentally infirm and no means of affording them. Capable of being educated, the children should be placed in a separate home under a specially trained teacher, where they can receive that individual care and instruction which alone will render them partly, if not wholly, self-supporting. Such a home has been established in South Australia with gratifying results; and the system has been successfully applied in England and America. The children of this class under the board's care are numerically few, but the number in the State is large, and their appropriate care is a matter of very grave social concern. The national system of education does not include any provision for their necessary specific instruction, and experience has shown that their undeveloped mental condition renders them peculiarly liable to degenerate into criminals, lunatics, or, in the case of females, to fall a victim to lust. The consensus of opinion is that mental deficiency is singularly subject to the laws of heredity.

A Faculty of Dentistry at the University of Melbourne.

The council of the University of Melbourne has agreed to institute a faculty of dentistry and a degree of bachelor of dental surgery. The curriculum is to be that at present prescribed by the Dental Board but matriculation is to be a necessary preliminary.

Donation to the Museum, Medical School, Melbourne.

The widow of the late Dr. Aubrey Bowen has given £500 to complete the fittings of the pathological museum at the University of Melbourne. Under the provisions of the Surplus Revenue Disposal Bill every private donation of this kind to the University brings an equal amount to its funds from the State.

Inebriates Bill.

A Bill to provide for the care, control, and treatment of inebriates has been circulated in the State Legislative Assembly of Victoria. The principal provision is that empowering judges of the supreme or county courts, the Master in Lunacy, or any police magistrate to order an inebriate to be placed for any period not exceeding 12 months in an institution named in the order or under the care of attendants who are in turn under the control of the official making the order. An order may also be made placing an inebriate under the care of persons named in his own house, the house of a friend, a hospital (public or private), or an institution for a period not exceeding 28 days. Before any order is made it has to be proved to the satisfaction of the court that the accused person is an inebriate, a medical certificate and corroborative evidence must be submitted, and the alleged inebriate must be inspected. Medical practitioners are required to specify the facts upon which they have formed their opinions and to distinguish facts observed personally from those communicated by other persons. No order is permitted to be made upon a certificate based on information obtained at second-hand, or from medical practitioners who are interested directly or through relatives in any institution. Inebriates thrice convicted of an offence "in which drunkenness is a necessary ingredient" may be ordered to be placed in any institution which the Government may establish for the purpose for from six to 12 months and on the order of a judge or the Master in Lunacy such periods may be altered from time to time by extensions not exceeding 12 months each.

Obituary.

Great regret has been felt at the news that Dr. Angel Money died at Randwick on Sept. 2nd. He had been under medical treatment and was found dead in his bed in the morning. Dr. Money came to Sydney in 1892 and quickly established a good practice. But as the number of patients increased the strain of heavy work began to tell on his health. At the beginning of last year he took a trip to Vancouver and seemed better for the rest and change. His course, however, was run. He was only 48 years of age and leaves a widow and two children.

News has been received of the death at Ulverston, England, of Dr. Patrick Moloney, late of Melbourne. Dr. Moloney was the first medical graduate of the University of Melbourne. For over 20 years he was physician to the Melbourne Hospital. At one time he was one of the leading physicians in Melbourne and had a very large practice. He also had literary leanings and contributed frequently to the Melbourne *Punch*, the *Australasian*, and the *Melbourne Review*. His writings were witty, cultured, and graceful. In the early days Dr. Moloney was one of that talented coterie of which Marcus Clarke, Adam Lindsay, Gordon, Kendall, and Burney were members. He had a handsome, commanding presence, a genial manner, and a ready wit. As an after-dinner orator he had no equal in his best days.

Another member of the medical profession in Melbourne passed away on Sept. 28th in the person of Mr. Thomas Hewlett, who had practised in Fitzroy since 1862. During his long residence he made a very large circle of deeply attached friends and was always held in the highest esteem by the community and the medical profession. He was born in Abingdon, Berkshire, where his father was incumbent of the parish. He studied at St. Bartholomew's Hospital, London, and took his M.R.C.S. Eng. in 1858; in the same year he was appointed assistant surgeon to the 2nd Battalion of the 19th Regiment, which served in India. He came to Australia in 1862. In 1882 he was elected President of the Medical Society of Victoria. For many years he was an active member of the Medical Board of Victoria.

Inspector-General of Insane, Victoria.

Dr. W. E. Jones has been appointed to the new position of Inspector-General of Insane in Victoria.

Oct. 3rd.

Obituary.

JOHN HARKER, M.D. HEIDELB., M.R.C.S. ENG., L.R.C.P. EDIN.

ON Nov. 12th there died at Hazel-grove, Carnforth, one of the oldest medical practitioners for many miles around the town of Lancaster. Many of the younger practitioners in the town and neighbourhood will not remember the days when he held a foremost position in the social and medical life of Lancaster, but all are familiar with his well-known presence and kindly greeting and not a few of the older men will look back on the past to the days when they were entering on the practice of their profession and sigh to think that the man who extended to them such a kindly welcome is now no more. As a practitioner of the healing art John Harker was in the first rank. His treatment of disease was scientific and as an operator he was careful, cleanly, and full of judgment, and his manner with his patients was courteous and sympathetic. He was well read in many subjects beyond his profession. Natural history, botany, archæology, and heraldry were all favourite studies.

Born at Kendal in the year 1834 he was educated at the grammar school of that town. He was apprenticed, as was the custom in those days, to Mr. Gough, a surgeon of more than local repute, to whose influence could doubtless be traced that love of nature which was such an integral part of John Harker's being. His medical studies were continued at the old Royal School of Medicine, Manchester—afterwards the Owens College—where he greatly distinguished himself, gaining numerous prizes. He

qualified as M.R.C.S. Eng., L.S.A. in 1856, afterwards taking the L.R.C.P. Edin. and the M.D. Heidelberg. In 1857 he was appointed house surgeon to the Lancaster Infirmary and Dispensary, which office he held for a year, when, upon entering private practice in the town, he was elected honorary medical officer to the institution and afterwards one of the trustees of its funds. This position he held with dignity, skill, and wisdom for 41 years, and when he finally retired from the active staff, to the great regret of his colleagues, he was elected by the committee honorary consulting medical officer to the now Royal Lancaster Infirmary as a mark of their esteem and an appreciation of his long and valued services. While a student he was elected the first scholar of the Manchester Royal School of Medicine, obtaining four medals. He was an Associate of the Owens College and a Fellow of the Sanitary Institute and of the Archæological Association. He was also a member of the British Medical Association, being President of the Lancashire and Cheshire branch in 1886. He was also medical officer of health of the borough of Lancaster and for the rural district for many years. He was a member of the County Club, and in October, 1886, upon his retirement from practice, he was placed upon the commission of the peace for the county of Lancashire. He took the keenest interest in the building of the new Royal Lancaster Infirmary and was a most generous contributor to the building fund, its present completeness being in more ways than one due to him. He married in 1866 a daughter of the late Mr. Dawson of Aldcliffe Hall, Lancaster.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Gailleton, professor of dermatology in the University of Lyons.—Dr. Wurfbain, formerly professor of surgery in Amsterdam.—Dr. Pérochaud, professor of therapeutics in the Nantes Medical School.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The first report of the recently appointed Studies and Examination Syndicate has just been issued. It includes the important proposal that candidates for all degrees (including degrees in medicine) shall be allowed to offer French or German for *one* of the classical languages—Latin and Greek. Both of these have been compulsory since 1822. It is also proposed that "set" books shall no longer be prescribed for any of the language papers and that Paley's "Evidences" shall be discontinued. The text in English is to be made more exacting and of the subjects—Scripture, history, physics, and chemistry—two must be taken by all students. The proposals will come up for discussion by the Senate on Dec. 1st and already the forces for and against the suggested reforms are organising their strength. The issue is not easy to predict, but something will turn on the vote respecting the analogous question which is about to be taken at Oxford.—Dr. Baker, F.R.S., and Mr. F. H. Neville, F.R.S., have been appointed Members of the General Board of Studies.—Dr. Myers has been appointed Demonstrator of Experimental Psychology under Dr. W. H. R. Rivers.—Benefactions amounting to about £1800 have been paid or promised for the endowment of a Huddersfield lectureship in special pathology.—Walsingham medals have been awarded to Mr. R. P. Gregory, Fellow of St. John's, for research in botany, and to Mr. K. Lucas, Fellow of Trinity, for research in physiology.—The following degrees were conferred at the congregation on Nov. 10th:—

Bachelor of Medicine.—A. Wylie, Pembroke; G. E. Davidson and A. R. Moore, Gonville and Caius; and W. W. Holtzmann, Christ's.
Bachelor of Surgery.—A. R. Moore, Gonville and Caius.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS.—At examinations held recently the following candidates passed as undernoted:—

SUPPLEMENTAL PRELIMINARY EXAMINATION.

With honours.—O. W. J. Wynne.
Passed.—J. V. M. Byrne, C. P. Corbett, E. J. Curran, Thomas Duncan, L. M. Ewart, Charles Greer, Joseph Marmion, H. S. Meade, John Menton, Roderick O'Connor, R. S. White, and W. H. Wray.

THIRD PROFESSIONAL EXAMINATION.

Passed in all subjects.—A. P. Barrett, M. D. Healy, C. W. O'Keeffe, John Prendiville, C. H. Waddell, and Rupert Walply.
Completed the examination.—L. A. Andrews, C. J. Bergin, T. S. Blackwell, John Burke, W. J. Connolly, R. F. O'T. Dickinson, T. A. Fisher, Cormac Gordon, J. J. Hogan, John McQuillan, William Roche, William Sheahan, Edmund Smith, J. R. Talbot, N. R. Usher, J. J. Vasquez, and G. F. Wright.

FINAL EXAMINATION.

Passed in all subjects.—J. R. P. Allin.
Completed the examination.—Michael Ambrose, E. C. Byrne, H. A. Cecil, Selby Clare, F. X. Costello, H. B. Evans, P. E. Harrison, M. C. O. Hurly, E. C. Jennings, R. W. D. Leslie, M. J. Lochrin, V. H. MacSwiney, E. C. Mulligan, J. C. Murphy, T. J. O'Donnell, B. H. Peters, John Pratt, S. H. Robinson, A. J. Swanton, and Edmond Walsh.

DIPLOMA IN PUBLIC HEALTH.

Honours.—John Arnallt Jones, M.D. Durh., M.R.C.S. Eng., L.R.C.P. Lond., L.S.A. Lond.
Passed.—Samuel John James Kirby, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A. Lond.; Frederick Charles Willmot, L.R.C.P. & S. Edin.; James Wood, M.B., Ch.B. Vict.; and Thomas James Wright, L.R.C.P. & S. I., R.A.M.C.

LITERARY INTELLIGENCE.—Messrs. Longmans, Green, and Co. will publish early in December "A Text-book of Medical Practice," by various contributors, edited by William Bain, M.D. Durh., M.R.C.P. Lond, with 75 illustrations. Apart from the practical character of the book the special features are that the anatomy, histology, and physiology of each organ or system precede the description of its diseases and that the various sections are contributed by general physicians and specialists.

UNIVERSITY OF OXFORD.—The following have been appointed examiners in medicine and in the preliminary natural science examinations:—Nevil V. Sidgwick, M.A., Fellow of Lincoln College, in organic chemistry; Arthur Thomson, M.A., Exeter College, professor of human anatomy, in human anatomy; Ralph Stockman, M.D. Edin., in materia medica; John S. Fairbairn, B.M., Magdalen College, in midwifery; German Sims Woodhead, M.D. Edin., in pathology; John Dixon Mann, M.D. St. And., in forensic medicine and public health; Leonard E. Hill, M.B. Lond., in human physiology; Arthur L. Ormerod, D.M., New College, in forensic medicine and public health; Edwin S. Craig, M.A., University College, in elementary mechanics and physics; James E. Marsh, M.A., Balliol College, in elementary chemistry; Walter Ramsden, D.M., Fellow of Pembroke College, in elementary physiology; and Edwin S. Goodrich, M.A., Fellow of Merton College, in elementary zoology. *Radcliffe Travelling Fellowship.*—An examination for a Radcliffe Travelling Fellowship of the annual value of £200 and tenable for three years will be held in Hilary Term, 1905, commencing on Tuesday, Feb. 28th. The examination will occupy four days. Papers will be set in physiology, pathology, and preventive medicine, and a subject will be proposed for an essay. There will also be a practical examination in pathology. Intending candidates should send their names, addresses, and qualifications to Professor Gotch, University Museum, on or before Saturday, Feb. 11th. (Further particulars will be found in the *University Gazette* of Nov. 8th, 1904.)

VICTORIA INFIRMARY, GLASGOW.—The second biennial dinner of the past and present resident assistants of this infirmary was held in Glasgow on Nov. 11th. Dr. William Dove Macfarlane, jun., of Busby, who presided, in proposing the toast of "The Victoria Infirmary," remarked that many changes had taken place in the infirmary since he was a resident assistant 13 years ago. Three wards, a pathological department, a nurses' home, and the Bellahouston Dispensary had been added, and an additional pavilion was now in the course of construction. The time spent in the infirmary he considered the happiest period of his life. The infirmary had been fortunate in its staff. Its first superintendent, Dr. D. J. Mackintosh, now superintendent of the Western Infirmary, Glasgow, had made a name for himself as an authority on hospital construction, and he was particularly pleased to couple this toast with the name of the present superintendent, Dr. D. O. Macgregor, a friend of his for 20 years. Dr. Macgregor replied in a humorous and very happy speech. Dr. Alexander Napier proposed "The Resident Assistants, Past and Present." He was not sure whether it was not the resident assistant who made the infirmary, he—the resident assistant—certainly kept his chief in order, referring in a quiet and not very pointed way to certain features in the case which he supposed his chief had overlooked. It was a joy to him to meet again so many of his former assistants. Dr. Alexander Prentice (Kilmarnock), a former resident, and Dr. Graham, a present resident, suitably replied. Dr. J. Grant Andrew proposed

the health of "The Chairman" and remarked that if Dr. Macgregor could claim a friendship with the chairman of over 20 years he could claim an even longer friendship, for Dr. Macfarlane and himself were born in the same year, in the same parish, the one the son of the medical man, and the other the son of the minister. They were at college together, residents in the same infirmary, and members of the same lodge. He said that the name of Macfarlane for two generations was, and is, much respected in Busby and its neighbourhood, and beloved by all, rich and poor alike.

ASSOCIATION OF ECONOMIC BIOLOGISTS.—The inaugural meeting of this association was held, by permission of the council of the Linnæan Society, in its apartments, Burlington House, on Nov. 8th. Mr. F. V. Theobald occupied the chair and in the course of his introductory remarks he detailed the steps taken by Mr. Walter E. Collinge to found an Association of Economic Biologists. He hoped that the association would welcome all investigators in economic biology, whether agricultural, medical, or commercial. The relationship between biology and agriculture was apparent to all, but only recently had they realised the importance of its relationships with medicine and commerce. Membership of the association would be confined to workers in economic biology. All such biologists employed by the Government or by any county or city council, university, or agricultural or horticultural college or association, and all persons engaged in investigations in economic biology, might become members. In addition others might join the association as associates. Mr. Collinge announced that about 30 individuals had sent in their names as original members. A draft of the proposed laws of the association was then read and after some minor alterations was approved and ordered to be printed. The following officers were elected for 1904–05: President: Mr. F. V. Theobald, M.A. Vice-President: Mr. A. E. Shipley, M.A., F.R.S. Council: Professor G. S. Boulger, Professor A. H. R. Buller, D.Sc., Professor George H. Carpenter, B.Sc., Dr. Francis Marshall, Mr. Robert Newstead, Major Ronald Ross, F.R.S., Mr. Fraser Storey, and Mr. Cecil Warburton, M.A. Honorary treasurer: Mr. Herbert Stone, F.L.S. Honorary secretary: Mr. Walter E. Collinge, M.Sc. It was decided to hold the next meeting at Birmingham in April, 1905.

SOCIETY OF APOTHECARIES OF LONDON.—The Master of the Society of Apothecaries, Mr. A. B. Day, and the wardens, Mr. J. F. Jeffcoat and Mr. E. Parker Young, entertained a numerous company at the Lord Mayor's Day dinner of the society held in its hall in the City of London on Nov. 11th. Among the guests present were Mr. T. Bryant, Sir Hugh R. Beevor, Sir Thistleton Dyer, Mr. R. Harrison, Dr. C. J. Cullingworth, Dr. F. de Havilland Hall, Dr. H. Radcliffe Crocker, Mr. Andrew Clark, Mr. W. Arbuthnot Lane, Mr. W. Adams Frost, Dr. W. Duncan, Mr. Henry Davis, the President of the Society of Public Analysts, the President of the Institute of Chemistry, Dr. C. E. Beevor, Sir Shirley F. Murphy, Dr. G. H. Savage, the Archdeacon of London, and Sir J. Dimsdale, M.P. After the Royal toasts had been enthusiastically honoured the Senior Warden, Mr. Jeffcoat, gave the toast of "The Imperial Forces," which was acknowledged by Major E. C. Freeman, R.A.M.C., who said that, in spite of all that appeared in the newspapers, he believed that the navy and the army were more efficient now than ever they were; at any rate, he declared that he knew that was true of the medical services. Mr. Day, the Master, then proposed "The Royal Colleges of Physicians of London and Surgeons of England," which was responded to by Dr. de Havilland Hall, who said that he had been an examiner for the qualification granted by the Society of Apothecaries and had also examined for the Conjoint Board for four years. His experience was that, though in some respects the Conjoint Board examination was more extensive than that at the Hall, still the amount of time devoted to the candidates at the examination of the Society of Apothecaries afforded time for the student to show what he knew, whereas at the Conjoint Board examinations there was not so much time available. Mr. Bryant acknowledged the toast on behalf of the Royal College of Surgeons of England and confessed that he was sorry that the Society of Apothecaries had not joined the Conjoint Board when it ought to have done so. Sir J. Dimsdale, M.P., submitted the toast of the "Society of Apothecaries of London," which was responded to by the Clerk of the Society, Mr. A. M. Upton, and then the toast of "The Visitors" was given by the Junior Warden, Mr. Parker Young, who congratulated Sir Shirley Murphy on the well-deserved honour bestowed upon him. The Archdeacon of London acknowledged this last toast and the evening's entertainment, which was varied by some excellent music, was concluded by an inspection of the collection of paintings in the hall in the court-room where coffee was served.

AMBULANCE DOGS IN WAR.—A display of the work of ambulance dogs in war will be given near the Windmill, Wimbledon Common, to-day (Saturday), from 2.30 to 4 P.M. by Major Hautdeville Richardson.

THE Royal Exchange Assurance, Royal Exchange, London, E.C., has decided to transact what is ordinarily known as trustee and executor business and is prepared to undertake the following offices, viz.: executor of wills, trustee under wills, trustee under settlements, and trustee for charitable or other institutions. Full particulars are given in a prospectus which has just been issued and which may be obtained by application to the secretary.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

AARONS, S. JERVOIS, M.D. Edin., M.R.C.P. Lond., has been appointed Pathologist and Curator of the Museum Hospital for Women, Soho-square, W.

BRIERLEY, W. E., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Women's and Children's Hospital, Leeds.

INGHAM, JAMES HERBERT IVY, M.B. Melb., has been appointed Acting Officer of Health for the Shire of Lowan, Victoria, Australia, during the absence on leave of Mr. Thomas Shanasy.

JEWELL, CHARLES COLEMAN, M.B. Lond., M.R.C.S., has been appointed Junior Medical Officer on probation in the Lunacy Department, New South Wales, Australia.

LAURIE, JAMES, M.B., C.M. Glasg., has been appointed Medical Officer to the Smithstone Asylum and Poor House, Greenock.

LYONS, MARTIN MOYLAN, M.B. Melb., has been appointed Officer of Health for the Shire of Tungemah, Victoria, Australia.

MOIR, WILLIAM, M.B., Ch.B. Aberd., has been appointed Officer of Health for the Shire of Mirboo, Victoria, Australia.

NAYLOR, ARTHUR GEORGE EYRE, L.R.C.P. & S. Edin., has been appointed Officer of Health for the Shire of South Gippsland, Victoria, Australia.

ST. JOHN, WINSTAN ST. A., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Derbyshire Hospital for Sick Children.

SAUNDERS, F. W., M.B. Cantab., has been appointed Superintendent Medical Officer of Luxor Hospital for Natives, Egypt.

STEVENSON, FREDERICK CHARLES, L.K.Q.C.P., L.R.C.S. Irel., has been appointed Government Medical Officer and Vaccinator at Moss Vale, New South Wales, Australia.

TURNER, H. STANLEY, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Registrar to the Central London Ear and Throat Hospital.

VEALE, Miss, M.B. Lond., has been appointed Clinical Assistant to the Women's and Children's Hospital, Leeds.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Senior and Junior Resident Medical Officers, both for six months. Honorarium at rate of £20 and £10 per year respectively, with board and lodging.

BERMONDSEY INFIRMARY AND CASUAL WARDS, Lower-road, Rotherhithe.—First Assistant Medical Officer. Salary £170 per annum, with rations, washing, apartments, and attendance.

BIRMINGHAM, THE QUEEN'S HOSPITAL.—House Physician. Salary £50, with board, lodging, and washing.

BRACEBRIDGE ASYLUM, near Lincoln.—Junior Assistant Medical Officer, unmarried. Salary £125 per annum, with apartments, board, attendance, &c.

BRITISH MEDICAL ASSOCIATION, 429, Strand, W.C.—Assistant to the Medical Secretary. Salary £200 per annum.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Secretary-Superintendent. Salary £250 per annum.

CARNARVONSHIRE AND ANGLESEY INFIRMARY, Bangor.—House Surgeon. Salary £80 per annum, rising to £100, with board, washing, and lodging.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician for six months. Honorarium £25, with board, residence, &c.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—House Surgeoncy. Salary £100 per annum, with board, residence, and washing.

GRIMSBY AND DISTRICT HOSPITAL.—Resident House Surgeon. Salary £80 per annum, with lodging and washing.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water, Surrey.—Junior Assistant Medical Officer (female). Salary £150, rising to £200, with board, lodging, washing, attendance, &c.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Resident Medical Superintendent. Salary 100 guineas per annum, with board and residence.

INDIAN MEDICAL SERVICE, India Office.—Examination for not less than 12 Commissions in His Majesty's Indian Medical Service.

JERSEY GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer, unmarried. Salary £120 a year, with rooms, gas, and attendance.

LONDON LOCK HOSPITAL.—House Surgeon to the Female Hospital. Salary £80 per annum, with board, lodging, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Senior House Surgeon. Salary £100, with board and residence.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer, unmarried. Salary £150 per annum, with board and residence.

NORTHAMPTON, ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES.—Junior Assistant Medical Officer. Salary £200 per annum, with apartments, board, and washing.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer. Also Assistant Resident Medical Officer, both for six months. Salary at rate of £50 per annum, with board, residence, and washing in each case.

READING, ROYAL BERKSHIRE HOSPITAL.—Ophthalmic Surgeon.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Resident House Surgeon. Salary £100, with board, residence, and laundry.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Six Out-patient Clinical Assistants for six months each.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon for six months. Honorarium £41, with board, residence, and laundry.

SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board and residence. Also Second House Surgeon, unmarried. Salary £60 per annum, with board and residence.

TIVERTON, DEVONSHIRE, INFIRMARY AND DISPENSARY.—House Surgeon and Dispenser. Salary £80 and all found.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician for six months. Honorarium of £25, with board and lodging.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry allowance provided.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies for Certifying Surgeons under the Factory Act at Kirkby Lonsdale, in the county of Westmorland; at Poole, in the county of Dorset; at Wisbech, in the county of Cambridge; and at Newport Pagnell, in the county of Buckingham.

Births, Marriages, and Deaths.

BIRTHS.

BOWES.—On Oct. 30th, 1904, at Rishton, Lancs., the wife of Jos. E. Bowes, M.B., of a son.

CAZENOVE.—On Nov. 10th, at Long Sutton, Lincolnshire, the wife of William Reginald Cazenove, M.R.C.S., L.R.C.P., of a daughter.

DUNLOP.—On Nov. 12th, at Chester-street, Edinburgh, the wife of James Craufurd Dunlop, F.R.C.P. Edin., of a son.

GERVIS.—On Nov. 13th, at Hurdis House, Seaford, Sussex, the wife of C. Berkeley Gervis, M.D., of a son.

HARSTON.—On Nov. 10th, at Hong-Kong, the wife of G. Montagu Harston, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

MALCOLM.—At 13, Portman-street, W., on Nov. 11th, the wife of John D. Malcolm, F.R.C.S. Edin., of a son.

MARRIAGES.

BLACKER—BOWEN.—On Nov. 8th, at St. Mary's Church, Tormarton, Glos., by the Rev. S. G. Gillum, assisted by Canon Awdry, Canon Trotman, Rev. J. Owen Evans, and Rev. W. Z. Jones, George Francis Blacker, M.D., F.R.C.P., third son of Commissary-General Latham Blacker, to Shirley Elvina Bowen, second daughter of Rev. T. J. Bowen, rector of Tormarton.

KILNER—PRATT.—On Nov. 11th, at Colombo, John Newport Kilner, M.B. Lond., Adra, India, Assistant Medical Officer of the Bengal Nagpur Railway, to Mildred, only daughter of John Wyatt Pratt, M.R.C.S., L.R.C.P.

DEATHS.

ELLERY.—On Nov. 6th, at Dawlish, Richard Job Ellery, L.R.C.P. Edin., M.R.C.S. Eng., L.M., L.S.A., late of Plymouth, Devon, aged 63.

PHILLIPS.—On Nov. 13th, after a short illness, at 1, Hyde Park-square, W., C. D. F. Phillips, M.D., LL.D. Aberd. & Ed., F.R.S. Ed., aged 74.

IN MEMORIAM.

BARROW.—In loving memory of Arthur Sibert Barrow, M.R.C.S., L.R.C.P., who died at Indwe, Cape Colony, Nov. 19th, 1903.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

AN IMPUDENT CIRCULAR.

A MEDICAL man practising in the West-end has forwarded to us an advertisement which was recently sent to him by a firm calling itself "The Mazit Remedies Co.," accompanied by a typewritten letter requesting him to note that it is advertising the goods referred to in its leaflet rather extensively and hoping that he will oblige the firm by keeping a stock of them. The letter proceeds to say that "the remedies may be had from any of the firms mentioned at 26*s.* per dozen, less 5 per cent. for cash, or direct from us. They are sold at 2*s.* 9*d.* per box, thus showing a net profit of nearly 8½*d.*" It is further promised that in due course the firm's traveller will call and explain the system of advertising used and the methods adopted for "helping you to sell the remedies." Other medical men have, no doubt, consigned similar documents to their waste-paper basket and we only refer to the matter in order to point out how dangerous the tendency of a traffic of this kind must be. Tempting promises of large profits and special discounts are, no doubt, usually addressed to small druggists and patent-medicine vendors, who are thus interested in "pushing" a "remedy," assisted by the advertisements and business-like enterprise of the manufacturer. The nostrum in question is advertised to cure by means of an ointment gout, rheumatism, and rheumatoid arthritis, as well as other ailments, and, as a preparation to be taken internally, Bright's disease, stone, and anæmia. The usual testimonials, which, however, with one exception, omit names and give addresses only in such general terms that they cannot be identified, are appended. The company in question would appear to hold views on medical ethics and on the desirability of obtaining medical support for their wares akin to those of the German correspondent to whose proposals we referred in our annotation entitled "In the Matter of Patent Medicines" in THE LANCET of Oct. 29th, p. 1229.

CONGENITAL MALFORMATIONS.

To the Editors of THE LANCET.

SIRS,—The following curious condition which recently came under my notice may be of interest. The case was that of a male child born the day previously who, as stated by the midwife, had large warts on his face. On examination a large warty growth of about the size and shape of the child's penis, broad at the base and tapering to a point, projected from the skin of the left malar eminence. This had all the appearances of a large wart. Another growth, about the same length but more slender, had origin from the sulcus formed by the left ala of the nose with the skin of the cheek. A third similar growth with a broad base half an inch in diameter and the free end papillated was situate about one inch above, and on a line with, the umbilicus. Several smaller warts also appeared on the left side of the body. The right side was entirely free. The left eyelids were sunken and had not been opened by the child. When separated the globe of the eye was found to be represented only by a small bluish-red mass—resembling a nævus—of about the size of a split pea, but apart from this there was no trace of an eyeball. The child, who was healthy and well formed otherwise, weighed 11 pounds and in every other respect appeared healthy. Other two childen were quite natural and healthy. The father and mother were healthy and no history of defective development on either side could be found. The mother seemed much surprised that she was unable to offer the usual explanation of "fright" or shock whilst pregnant as the cause of this condition. The peculiarities of this case must be my excuse for trepassing on your space.

I am, Sirs, yours faithfully,

Cinderford, Nov. 14th, 1904. D. REID CAMPBELL.

NEW APPLICATIONS OF RADIUM TO CASES OF CANCER.

"A New Method of Curing Cancer" is the title of an article appearing in the *Novoe Vremya*, the subject of which is a report from the Morosoff Cancer Institute of Moscow, describing Dr. Braunstein's method of treating malignant tumours. The statement reads: "Dr. Braunstein uses radium emanations in two forms—in liquid and in powder. To get the radio-active liquid a solution of 0·1 per cent. of radium chloride in water is distilled in an ordinary Liebig apparatus and the distillation, which is kept in a glass vessel, consists of radio-active water, for radium under heat throws off a large quantity of emanations which pass over with the distilled water. As to the preparation of radio-active powder there is nothing simpler. All that is required is a substance like bismuth which, kept in a vessel with radium for from three to five days, will acquire all the properties of a radio-active substance. Dr. Braunstein applied radio-active water by injecting it into the cancerous swelling itself, and in those cases where injection was not possible, where the stomach, œsophagus, larynx, &c., were attacked, the patient was given internally radio-active bismuth powder with water. Finally, where possible, the powder was applied to the surface of the malignant growth with a brush. Dr. Braunstein had eight patients at his disposition, of whom three were treated with injections of radio-active water and the remaining five with

radio-active powder. The following is what was observed. The applications of emanations in the form of radio-active powder or radio-active water did not cause any injury to normal healthy tissue and did not produce any sore in it, as frequently occurs with the application of radium radiations. With the aid of these emanations the whole of the radio-active energy may be used with respect to such internal tumours as are inaccessible to radium radiations. With cancer, for example, in the œsophagus by the introduction of radio-active bismuth with water into the interior the tumour may be gradually removed, as consequent on the passage through the narrow part of the œsophagus the bismuth settles on the surface of the cancerous growth and there exercises its radio-active energy. In like manner with the injection of radio-active water into the sore itself the progress of destruction was arrested, whilst not the slightest injury to the healthy tissue was noticeable, nor yet the formation of abscesses on the surface of the tumour. In every case where emanations in the form of radio-active powder or radio-active water were used the same results always followed—under the influence of radio-active energy the cancerous substance is gradually destroyed." It is not pretended, says the report in conclusion, that these first results are conclusive, though they are sufficiently striking to insure attention being directed to this method. The report is of interest as indicating a new method of making use of radio-active emanations. It is, of course, too soon to form any idea of its probable value but there seem to be considerable possibilities in Dr. Braunstein's suggestions. So far the treatment of cancer by means of radium has been very disappointing and it is to be hoped that other observers will give this new method a trial and that more favourable results may be obtained.

THE APPEAL ON BEHALF OF MISS E. B. PELLATT, L.S.A.

THE treasurer, Surgeon-Colonel F. H. Welch, desires to acknowledge the receipt of the following sums, completing the list of donations to this fund:—

	£	s.	d.
Miss Ormiston	2	0	0
Dr. Lilian M. Chesney	0	10	6
Dr. S. W. Sutton ...	2	2	0
Mr. H. A. Hinton ...	2	2	0
Rev. E. L. C. Clapton	0	10	6
Miss Grundy	0	10	0
Mrs. Sparrow	0	10	0
Miss Pellatt	2	0	0
Dr. Elizabeth Beatty...	0	10	6
Wood Green and District Medical Society	3	0	0
Mr. A. J. Elkington ...	1	0	0
Rev. H. Whittaker ...	0	10	6
Mr. A. C. Hackforth ...	0	5	0
Miss Agnes Catchpool	0	5	0
Miss E. P. Pratt... ...	0	5	0
Miss Greenwood	0	10	6
Collected by Mr. Robert Turner	1	10	6
Dr. F. H. Champneys ...	2	2	0
H. C. V.	1	1	0
Rev. F. Parnall	1	0	0
Dr. Annette M. Benson	2	2	0
Mrs. Bryant and old pupils of the North London Collegiate School, per Miss Grace Toplis	33	4	0
Old pupils of the Missionary Union, per Miss Buchanan	17	8	0
Dr. Harriet E. Knight	0	10	0

THE VISIT OF FRENCH PHYSICIANS AND SURGEONS TO LONDON.

IN connexion with the recent visit of French physicians and surgeons to London the *St. Bartholomew's Hospital Gazette* for November contains a supplement in the shape of a humorous drawing of various members of the medical profession in France. The original cartoon was drawn by M. Barrère and presented to the students of St. Bartholomew's Hospital, whose smoking room it now adorns.

A PEN-SHAPED SPUD FOR OPERATIONS ON THE SKIN.

WE have received from Dr. Dreuw of Altona, assistant in Dr. Unna's dermatological clinic, a description of an instrument which he has found serviceable in some minor operations on the skin. The objections to the use of any form of knife are (1) that it almost invariably alarms the patient; and (2) that when portions of the skin are to be removed for histological examination the knife is apt to remove only the surface and to leave the subjacent vascular structures. The "pen" is quite like an ordinary steel writing pen except that the edges rise more abruptly from the point and project in front of the hollow portion which fits into the pen-holder. Before use it is sterilised either by boiling or by antiseptics, such as spirit of soap (Seifenspiritus—i.e., an alcoholic solution), alcohol, or benzine. A fold of skin is pinched up with the thumb and the forefinger, the part to be excised being at the summit and marked with ink if necessary. The skin is then thoroughly frozen with ethyl chloride and by thrusting the "pen" into the fold of skin the part in question is at once detached. The "pen," the price of which is 1 mark, is made by Herr C. W. Bolte, 20, Rathausstrasse, Hamburg. This firm also supplies a "pincette" which fits the "pen" and prevents possible injury of the operator's left hand.

THE SUSSEX MEDICAL BENEVOLENT SOCIETY.

A SOCIETY called by the above title has just been formed and we have received a copy of the rules. The subscription is either one guinea per annum or 25 guineas for life membership. The objects of the society are to aid the widows and children of members duly qualified who have died in indigent circumstances, and to aid the sisters of such members, being single women or widows, who have lived with their brothers as their housekeepers for a period of not less than five years preceding their deaths; to aid such members as are wholly or partially incapacitated by age or permanent bodily infirmities or who are disabled by severe illness or injury from practising for a period of six months; to aid in the education of the children of members thus incapacitated or temporarily disabled; and to assist any deserving case of necessity not included in the foregoing. All members joining before May 1st, 1905, will be considered as original members and will not need election. Further particulars can be obtained from the honorary secretary, Dr. L. A. Parry, 61, Church-road, Hove.

A SUGGESTION TO THE ROYAL COMMISSION ON TUBERCULOSIS.

WE have received the following communication which was addressed to the Royal Commission on Tuberculosis:—

A CONSUMPTION CURE.

It is likely that consumption might be cured by six weeks' open-air treatment (instead of six months') by the judicious use of fern-root and pomgranate bark in combination with lavender oil and a little hypophosphates (or Easton syrup). Possibly lavender and fern would be sufficient. Lavender seems a healing ammonia. I had some of the tubercle bacilli about the heart and I drove them out with the above substances. The fern-root decoction was the stuff I used in largest quantities, then pomgranates, then lavender, and lastly the triple phosphates. Koch's germ cannot resist these combinations. I also rubbed a little golden ointment over the heart (℥ ung. hydr. nit. and sulphuris, a. a. ʒi). I also kept my window open at night. At the time they were driven out I noticed one day in the dung waste what seemed a square inch of tissue like clear part of an egg seething with germs. I examined them with a strong 1s. microscope but they were quite invisible. Possibly there was thousands of germs or more and thus made visible as a whole. I shall however try and find out which of the above is best or which two.

PRESBYTERIAN.

L.S.A. London.—We do not think that there will be any objection to the course of action which our correspondent proposes unless there are circumstances not mentioned in his communication. A place may fall naturally in the district of a brother practitioner without possessing a resident medical man. Our correspondent must to a great extent judge for himself as to the propriety of his conduct.

D. R. C.—"A Manual of Hygiene," by W. H. Hamer, M.D. Cantab., will probably supply the information which our correspondent requires. It was published by Messrs. J. & A. Churchill in 1902.

E. P. H.—If the master of a servant sends for a medical man to attend such a servant he, the master, is liable for the fees.

Pompey.—Our correspondent might apply to the Sister-in-charge, St. Saviour's Hospital, Osnaburgh-street, London, N.W.

M. F. F. will probably find the information which he desires by referring to our analytical columns.

F.R.C.S.—The question is a legal one but surely the order can be obtained.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (26th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (22nd).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Discussion on Chloroform Anæsthesia (opened by Dr. Hewitt).

THERAPEUTICAL SOCIETY (Apothecaries' Hall, Blackfriars).—3.30 P.M. Council Meeting. 4 P.M. Papers:—Dr. G. Sharp: Strychnos Toxifera *Benth* and other Paralysers of the Motor Nerve Endings.—Mr. G. Moore: Notes on Brandy.

FRIDAY (25th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. C. R. Box: The Crises of Posterior Basic Meningitis.—Dr. H. D. Rolleston: A Case of Unilateral Tuberculous Meningitis in which a Bullous Eruption followed Lumbar Puncture.—Mr. R. M. Corner and Mr. L. S. Dudgeon: Post-operative Acute Local Tuberculous Infection.—Mr. C. Wallace: A Series of Intussusceptions in Children.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Clinique. (Skin.) 5.15 P.M. Mr. C. R. B. Keetley: Plastic Surgery.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Ball: Diseases of the Tonsils (with lantern slides).

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM (City-road, E.C.).—2.30 P.M. Mr. F. Wallis: Lecture-Demonstration on Diseases of the Rectum.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Mr. J. Cantlie: Liver Abscess and its Treatment.

TUESDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. Taylor: Clinique. (Medical.) 5.15 P.M. Dr. G. Herschell: Modern Intra-Gastric Methods in the Diagnosis of Diseases of the Stomach.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Ball: Diseases of the Tonsils (with lantern slides).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. A. Turner: Prognosis in Epilepsy.

GLASGOW OPHTHALMIC INSTITUTION (126, West Regent-street).—8 P.M. Demonstration of Ophthalmoscopic Cases, Stereoscopic and other Photographs, Pathological Specimens, Microscopic Slides, and Optical Instruments. Clinical Evening. Demonstration of Patients: Diseases of the Cornea and Iris. (Post-Graduate Course.)

WEDNESDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. P. Paton: Clinique. (Surgical.) 5.15 P.M. Mr. F. C. Wallis: Injuries to, and Diseases of, Joints.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Russell: Gastric Ulceration.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. A. Latham: Mitral Regurgitation.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM (City-road, E.C.).—10.30 A.M. Mr. L. Mummery: Clinical Demonstration in the Out-Patient Department.

THURSDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. G. Herschell: Modern Intra-Gastric Methods in the Treatment of Diseases of the Stomach.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. S. Edwards: Cancer of the Rectum.

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Dr. Roberts: Cases from the Wards.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Lecture: Dr. T. N. Kelynack: Practical Points in the Hygienic Treatment of Respiratory Affections (illustrated by preparations). (Post-Graduate Course.)

CHARING CROSS HOSPITAL.—4 P.M. Mr. Gibbs: Demonstration of Surgical Cases. (Post-Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Lecture:—Mr. S. Collier: Peritoneal Infection in Childhood.

FRIDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Yearsley: Clinique. (Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Armour: Injuries to the Spine and Spinal Cord.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. J. Taylor: Ophthalmoplegia in Diseases of the Nervous System.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Mr. P. Brooks: Amblyopia, Congenital and Acquired.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 17th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Nov. 11	29·92	S.W.	0·39	82	59	48	51	52	Foggy
,, 12	30·17	N.W.	...	76	56	47	46	48	Fine
,, 13	30·45	S.W.	...	67	54	43	43	43	Foggy
,, 14	30·55	E.	...	55	52	38	40	40	Foggy
,, 15	30·56	S.E.	...	62	55	39	41	41	Foggy
,, 16	30·41	S.W.	...	73	52	39	42	43	Foggy
,, 17	30·48	S.E.	...	47	46	42	46	47	Foggy

During the week marked copies of the following newspapers have been received:—*Eastern Morning News, Westminster Gazette, Sussex Daily News, Dublin Times, Birmingham Post, Surrey Advertiser, Notts Guardian, Dublin Express, Bradford Observer, Hereford Mercury, Sanitary Record, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, The Scotsman, St. Petersburg Medicinische Wochenschrift, Evening News, Yorkshire Post, Liverpool Mercury and Journal, &c.*

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